

1 STATE OF INDIANA )  
 ) SS:  
2 COUNTY OF DELAWARE )  
3  
 IN THE DELAWARE COUNTY SUPERIOR COURT  
4  
5 CRAIG DUNN and PHILIP WILEY, )  
 et al., )  
6 Plaintiffs, )  
 )  
7 -v- ) CAUSE NO.  
 ) 18D01-9305-CT-06  
8 RJR NABISCO HOLDINGS )  
 CORPORATIONS, et al., )  
9 Defendants. )

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1 MR. CASSELL: All rise.  
2 THE COURT: Be seated. Good  
3 morning, ladies and gentlemen.  
4 ALL: Good morning.  
5 THE COURT: Jury appears in its  
6 entirety, together with the alternates.  
7 Good morning, Counsel.  
8 ALL: Good morning, Your Honor.  
9 THE COURT: When we left Friday  
10 evening, Dr. Ogden was testifying on direct  
11 examination. Is Dr. Ogden here?  
12 MR. FURR: He is here, Your Honor.  
13 THE COURT: Would you raise your  
14 right hand.  
15 DEFENDANTS' WITNESS, MICHAEL WAYNE OGDEN, SWORN  
16 THE COURT: Be seated, please.  
17 Tell the jury your name, please.  
18 THE WITNESS: Michael Wayne Ogden.  
19 THE COURT: Thank you.  
20 MR. FURR: May I proceed, Your  
21 Honor?  
22 THE COURT: Mr. Furr.  
23 MR. FURR: Thank you.  
24 DIRECT EXAMINATION  
25 BY MR. FURR:

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1 Q Dr. Ogden, when we left here on Friday, you  
2 had told the jury about the methodology that  
3 RJ Reynolds had developed for measuring  
4 environmental tobacco smoke in nicotine. Do  
5 you recall that?  
6 A I did, yes.  
7 Q When was that developed?

8 A We began that development in 1985, so I  
9 would say in 1985, 1986 is when we had the  
10 first complete description of how to measure  
11 nicotine.  
12 Q When Reynolds developed that methodology,  
13 was there already a methodology in existence  
14 for measuring atmospheric nicotine?  
15 A Yes. Not from environmental tobacco smoke  
16 perspective, but NIOSH had a method for  
17 measuring high occupational exposure that  
18 you might encounter from, for example, a  
19 tobacco manufacturing facility.  
20 Q Who is NIOSH?  
21 A NIOSH is, stands for, I guess, it's National  
22 Institute of Occupational Safety and Health.  
23 They develop methods that OSHA uses for  
24 workplace monitoring. It's a government  
25 agency.

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1 Q Why didn't Reynolds just begin using the  
2 NIOSH method for measuring nicotine instead  
3 of going through all the effort and time to  
4 develop a new method?  
5 A Well, the NIOSH method, as I indicated, was  
6 for much higher levels of just nicotine that  
7 might evaporate from tobacco leaves as they  
8 were made into cigarettes, as an example.  
9 In analytical chemistry, I would say  
10 that I would describe that method as not  
11 having appropriate sensitivity for studying  
12 ETS. That is, you couldn't measure ETS  
13 levels. If we had used that method and  
14 applied it to ETS, we would get zeros  
15 everywhere, so we couldn't find anything.  
16 Q Now, have you and your colleagues at RJ  
17 Reynolds developed analytical methodologies  
18 that can be used to measure markers in  
19 addition to nicotine that are found in  
20 environmental tobacco smoke?  
21 A Yes, we have.  
22 Q And I'd ask you first to list the additional  
23 markers for which RJ Reynolds has developed  
24 methodologies for measurement. Go slow if  
25 you would, and I'll ask you some follow-up

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1 questions.  
2 A The most widely used marker that's we've  
3 developed, first of all, would be what I  
4 would call RSP, which stands for respirable  
5 suspended particles. These would be the  
6 small particles that you could see, for  
7 example, in smoke or in an aerosol.  
8 Q Okay. Keep listing them if you would, and  
9 we'll come back and talk about each of them.  
10 A Okay. We developed other markers that  
11 are -- that their name is a little bit funny  
12 to describe, but one we call UVP, which  
13 stands for ultraviolet particulate matter.  
14 I'm giving you in more or less chronological  
15 order of how we developed them. Then we  
16 have one called FPM, F as in Frank. Stands

17 for fluorescent particulate matter. Then we  
18 have a method for Solanesol.  
19 Q Solanesol?  
20 A Solanesol. And then another commonly used  
21 marker is 3-ethenyl pyridine. We abbreviate  
22 it 3-EP.  
23 Q Okay. Anything else for which the  
24 methodology has already been developed?  
25 A Those are the most commonly used tobacco

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1 selective markers. We measure many other  
2 things, but this is the list of tobacco  
3 selective markers that we use most often.  
4 Q Beginning with RSP, would you describe for  
5 the jury a little bit about what RSP is and  
6 the Reynolds' research evidence in  
7 developing a methodology for measuring RSP  
8 in nicotine.  
9 A As I said, RSP stands for respirable  
10 suspended particulates, or particle matter.  
11 These are the small particles of the  
12 aerosol. Again, I'm not sure whether the  
13 jury has heard about smoke being composed of  
14 gases and particles.  
15 Q The jury has heard that.  
16 A They have heard that. Okay. This would be  
17 the particle part of the smoke. These are  
18 particles that are generally smaller than  
19 five microns in diameter or five-millionths  
20 of a meter, so they're fairly small  
21 particles. And, of course, we know that  
22 particles are emitted when people smoke  
23 cigarettes. But also particles are emitted  
24 from many other things in the indoor  
25 environment, so RSP is just one measure of

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1 overall indoor air quality, if you will.  
2 Q Was the work that RJ Reynolds did in  
3 developing a methodology to measure RSP in  
4 ETS published for other scientists to  
5 review?  
6 A Yes, it is. We talked about, I think, on  
7 Friday some of the official methods that we  
8 have developed, and our RSP method is an  
9 official method in several agencies or  
10 organizations.  
11 Q Could you identify those agencies or  
12 organizations? Let me back up. Are these  
13 the agencies and organizations that we  
14 talked about on Friday that validate  
15 analytical chemistry methods?  
16 A That's correct, yes. The RSP method is  
17 currently the official method within ASTM,  
18 which is the American Society for Testing  
19 and Materials. It currently is a draft  
20 international standard within ISO, the  
21 International Standard Organization.  
22 Q And RSP was used to measure the particulate  
23 phase of environmental tobacco smoke?  
24 A We have used it that way. Since then we  
25 have learned a lot more about it, and it's

1 not the good marker that people used to  
2 think it was. And we've developed other  
3 markers, and they're on that list.

4 Q Would you explain what UVPM is and what RJ  
5 Reynolds did with respect to developing a  
6 methodology for measuring UVPM in  
7 environmental tobacco smoke.

8 A Sure. As I indicated, the RSP are the  
9 particles of tobacco smoke. We can measure  
10 by RSP, which is simply we use a filter and  
11 we collect particles and we can weigh them.  
12 If we collect enough of them, we have a very  
13 sensitive balance and we actually weigh the  
14 collective particles. But the weight of a  
15 particle doesn't tell you where it came  
16 from. We have no idea by looking at the  
17 weight whether it's a tobacco particle or,  
18 you know, flour dust in your kitchen or coal  
19 dust or from a wood-burning fireplace or any  
20 number of sources of other particles.

21 So we began, I would say in the early  
22 1980s, 1984, 1985, looking for ways of  
23 trying to be more specific, that is, can we  
24 take these particles and pick them apart and  
25 try to identify which fraction came just

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1 from tobacco smoke and which fraction came  
2 from everything else.

3 This measurement of UVPM was the first  
4 measurement methodology that we are aware of  
5 that anybody had applied, and we began  
6 applying this to try to determine how much  
7 was tobacco particles and how much was other  
8 particles.

9 Q And how does UVPM do that?

10 A What we've done or what we did was we  
11 extracted the particles from a filter that  
12 we collected them on in a solvent, happens  
13 to be methyl alcohol, but then we would  
14 measure the ultraviolet absorbance of those  
15 particles. And by calibrating the  
16 instrumentation so that it was very  
17 sensitive to the ultraviolet absorbance from  
18 tobacco smoke particles, we could reduce the  
19 interference for non-tobacco smoke  
20 particles.

21 Q Let me slow you down. Ultraviolet  
22 absorbance, can you explain what you mean?

23 A Many chemicals absorb light. A good example  
24 would be sunscreen. The way that a  
25 sunscreen keeps you from getting sunburned

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1 is that the chemical in sunscreen absorbs  
2 the UV radiation so that it doesn't get to  
3 your skin.

4 There are chemicals in tobacco smoke  
5 that absorb UV light. And we have  
6 instrumentation in the laboratory that can  
7 measure that absorbance. So it's simply a

8 tool that an analytical chemist would use to  
9 try to identify and -- compounds or  
10 molecules.  
11 Q Did Reynolds publish for other scientists to  
12 review the work it had done in developing  
13 UVPM as a marker for the particulate phase  
14 of environmental tobacco smoke?  
15 A Yes. It's been published several times.  
16 It's been presented at various scientific  
17 meetings and it also is an official method  
18 with ASTM.  
19 Q Okay. Would you tell us what FPM is and  
20 what Reynolds did with respect to developing  
21 a methodology for measuring FPM as a marker  
22 for measuring environmental tobacco smoke.  
23 A Okay. Another property of some chemicals is  
24 that they fluoresce. I'm trying to think of  
25 a good example of that and I can't come up

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1 with one right now. Well, fluorescent  
2 lights would be the obvious ones, I suppose.  
3 There are certain chemicals that  
4 fluoresce, which is -- it depends on the  
5 chemical nature of that particular chemical  
6 whether or not it can fluoresce. But  
7 generally there are fewer molecules in  
8 nature that fluoresce than do absorb UV  
9 light. So it's a very similar measure to  
10 UVPM but now we're measuring a fluorescence  
11 response from chemicals that are in this  
12 solution that we've extracted from the  
13 particles.

14 And --

15 Q Let me ask you a question in that regard.  
16 Was FPM an effort to find a more specific  
17 measure of the particulate phase than UVPM?  
18 A Exactly. The reason we investigated FPM is  
19 because the reason I was just explaining to  
20 you. In nature there are many -- there are  
21 fewer chemicals that fluoresce than do  
22 absorb UV light. So there is less potential  
23 for interference from non-tobacco sources,  
24 if we've calibrated it appropriately, which  
25 we think we've done. So it's an attempt,

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1 really, to find a more selective indicator  
2 of the particles of tobacco smoke.  
3 Q Did Reynolds publish its methodology with  
4 respect to measuring FPM as a marker for  
5 environmental tobacco smoke for other  
6 scientists to review?  
7 A Yes. We first published it in 1990, and,  
8 again, it's the subject of official methods  
9 within ASTM and ISO.  
10 Q Let's go to Solanesol. Would you explain  
11 what Solanesol is and what Reynolds did and  
12 what you specifically did with respect to  
13 Solanesol?  
14 A I think I told you on Friday that one of the  
15 first projects I worked on was to make -- to  
16 develop a measurement methodology for

17 nicotine in ETS.  
18 One of the second projects that I  
19 worked on, in fact, the one I'm most proud  
20 of, is the development of Solanesol as a  
21 marker. Because what we recognized from our  
22 few years of work to that point with  
23 nicotine is that nicotine did not appear to  
24 be a very good marker of tobacco smoke  
25 particles.

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1 I think I told you that we, in fact,  
2 found nicotine wasn't even in the tobacco  
3 particles, which other people had assumed  
4 that it was.  
5 So one of the first projects I took on  
6 after nicotine was to look for a single  
7 chemical that was in tobacco smoke particles  
8 that we could measure, that it would be  
9 unambiguous as to where it came from. If we  
10 found it in the air, and Solanesol is a  
11 single chemical that is a tobacco smoke  
12 component; and when we measure Solanesol in  
13 indoor air, we are absolutely sure that it  
14 came from tobacco smoke.  
15 Q Is Solanesol a marker for the particulate  
16 phase or the vapor phase of environmental  
17 tobacco smoke?  
18 A It's clearly a marker for the particulate  
19 phase.  
20 Q And did Reynolds submit its work on  
21 Solanesol to the scientific community  
22 through the publication process?  
23 A Again, published and presented many times.  
24 It is not an official method yet, but it is  
25 in the approval processes within ASTM. It's

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1 in the final approval stages of that  
2 organization's method validation process.  
3 Q Dr. Ogden, up until now, all the markers  
4 that you've spoken about except for nicotine  
5 were measures of the particulate phase of  
6 environmental tobacco smoke; is that right?  
7 A That's correct.  
8 Q Would you explain to the jury what 3-EP is  
9 and what Reynolds did with respect to  
10 evaluating 3-EP as a marker measuring  
11 environmental tobacco smoke.  
12 A 3-EP, as I told you, stands for 3-ethenyl  
13 pyridine. It's a big, long mouthful of  
14 chemical names. But the 3-EP is a molecule  
15 that is generated when nicotine is burned.  
16 So it's a combustion product of nicotine.  
17 There are other combustion products but this  
18 is the main combustion product of nicotine.  
19 And, again, we're not aware of 3-EP being  
20 found airborne in any situation other than  
21 resulting from the smoking of tobacco.  
22 This discovery actually came out of our  
23 environmental chamber work that I showed you  
24 the stainless steel box on Friday, and that  
25 sophisticated piece of equipment called



- 1 TAGA, the trace atmospheric gas analyzer.  
2 We were able to measure 3-ethenyl  
3 pyridine and starting as early as 1984, we  
4 had an idea that this chemical may be a good  
5 marker for the gases of ETS. And then, over  
6 the years, I developed a method for  
7 measuring 3-EP that didn't use that great  
8 big laboratory piece of equipment, using  
9 equipment that we could take into people's  
10 homes and workplaces and restaurants and  
11 things like that.
- 12 Q Was the work on 3-EP submitted to scientific  
13 journals for publication?
- 14 A Yes, it is.
- 15 Q Has the work on 3-EP as a marker been  
16 submitted to the standards organizations?
- 17 A Yes. It's also an official method within  
18 ASTM.
- 19 Q Dr. Ogden, over what period of time did  
20 Reynolds do the work that resulted in your  
21 findings with respect to the use of those  
22 markers -- those chemicals as markers for  
23 the measurement of environmental tobacco  
24 smoke?
- 25 A Are you asking me over what period of time

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- 1 we developed the methods to measure them?
- 2 Q Yes, collectively for all of them.
- 3 A Well, as I indicated, we started the work  
4 with 3-EP, RSP in nicotine in the early days  
5 of our chamber, so that would have been  
6 1983, 1984.
- 7 The more selective markers and the more  
8 portable methods for measuring those we  
9 developed through the -- starting in 1985  
10 through the late '80s, I would say, up to  
11 1990. At 1990 we had a complete description  
12 of all of these methods that were available  
13 in the scientific literature or that we had  
14 presented at a conference somewhere.
- 15 Q Do these markers represent the current state  
16 of the art for attempting to characterize  
17 how much environmental tobacco smoke is in a  
18 given environment?
- 19 A Yes, I think they do.
- 20 Q Has Reynolds continued to work on developing  
21 additional markers for environmental tobacco  
22 smoke in indoor environments?
- 23 A Yes. There are many things that we have  
24 measured either in a laboratory or tried to  
25 measure in a field setting. But these are

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- 1 the most commonly used that are the most  
2 informative that tell us what we want to  
3 know.
- 4 Q Has Reynolds done any work with respect to  
5 the presence of tobacco-specific  
6 nitrosamines from environmental tobacco  
7 smoke for use as a marker?

8 A Yes. There are really two efforts that I  
9 would describe. One would have been in the  
10 late 1980s; we had methodology to measure  
11 mainstream and sidestream smoke nitrosamines  
12 using that small glass bottle that I showed  
13 you on Friday. So we had some measurement  
14 methodology that was associated with that.

15 We took that methodology into our  
16 environmental chamber, that stainless steel  
17 box, and tried to measure high levels of  
18 nitrosamines -- or tried to measure the  
19 nitrosamines that might be in high levels of  
20 ETS generated in that chamber. And we  
21 couldn't find anything. And that's back to  
22 this sensitivity of the methods. In other  
23 words, that methodology was not able to see  
24 anything.

25 More recently, in the last two to three  
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1 years, we have renewed our efforts to try to  
2 measure realistic levels of nitrosamines in  
3 ETS. And that's a project that's currently  
4 going on in my laboratory now.

5 Q Has any organization developed a methodology  
6 that can be used to measure tobacco-specific  
7 nitrosamines from environmental tobacco  
8 smoke in typical real world environments  
9 such as an office where smoking is not  
10 restricted?

11 A No.

12 Q Well, can the methods that you've developed  
13 to measure tobacco specific nitrosamines in  
14 the chamber that you described be used to  
15 measure tobacco-specific nitrosamines in a  
16 typical real world environment?

17 A Let me clarify what I said a minute ago.  
18 Maybe it was confusing. The chamber  
19 measurements that we have been successfully  
20 able to measure nitrosamines are in that  
21 very small glass bottle. In fact, it  
22 happens to be right at my feet. This one.  
23 We can measure nitrosamines ins in this  
24 chamber. But we have not, to this date,  
25 been successful in measuring nitrosamines in

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1 the larger room-size chamber. The methods  
2 just aren't sensitive enough. So we  
3 currently don't have a scientifically  
4 validated method for measuring nitrosamines  
5 in a room-size chamber that would be  
6 applicable to ETS. We can measure them in  
7 sidestream smoke but not ETS.

8 Q Dr. Ogden, if a scientist were to conduct an  
9 experiment whereby 30 to 60 cigarettes were  
10 smoked in an 18-cubic-meter chamber, would  
11 that provide you -- and tobacco-specific  
12 nitrosamines were measured in the smoke that  
13 was generated under those conditions, would  
14 that provide you any information with  
15 respect to the exposure of nonsmokers to  
16 tobacco-specific nitrosamines in real world

17 environments?

18 A No.

19 Q Why not?

20 A Well, a number of reasons. The first and  
21 foremost reason is an experiment that you  
22 just described would be, the concentration  
23 of smoke would be thousands of times higher  
24 than it would be in a typical indoor  
25 setting. The potential for what I would

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1 call artifact formations, that is, chemical  
2 reactions and other things that may go on,  
3 and they may actually give you misleading  
4 information.

5 Q What do you mean by artifact formation?

6 A At very high concentrations, chemicals are  
7 much more likely to react, that is,  
8 chemically to combine and form something  
9 new. And that has been shown to happen in  
10 sidestream smoke and also in mainstream  
11 smoke. So the first thing you would have to  
12 do to study ETS is to generate real ETS.  
13 That is, at low concentrations, and then see  
14 what goes on there.

15 But to try to predict that from a very  
16 high concentration chamber that you just  
17 described, I think, would not be a useful  
18 scientific exercise for studying ETS.

19 Q Okay. On Friday you showed us a picture of  
20 the environmental chamber that was developed  
21 at Reynolds for assessing the chemistry of  
22 environmental tobacco smoke. Is that the  
23 chamber that Reynolds currently uses for  
24 those type of experiments?

25 A No. The stainless steel box is not

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1 currently used.

2 Q Has Reynolds developed a new chamber?

3 A We have.

4 Q Did you bring a picture of the new chamber?

5 A Yes, I did.

6 Q Let me show you the picture that you brought  
7 and ask you to explain to the jury the  
8 differences between the new chamber and the  
9 chamber that you showed them on Friday.

10 A Through our work in the late '80s, we were  
11 very successful in studying the chemistry of  
12 environmental tobacco smoke in that  
13 stainless steel box. But some of the things  
14 we learned about that, and as we tried to  
15 develop new experiments, we realized that  
16 the chamber that we had was not the best  
17 chamber for studying that. That is, we  
18 wanted to study, for example, people's  
19 reaction to potential irritation, potential  
20 sensory annoyance to ETS. And as you can  
21 imagine maybe, from that picture, that  
22 stainless steel box was not very user  
23 friendly.

24 We decided to build a new chamber  
25 facility. In fact, we call them the twins,

- 1 but they're actually two chambers.  
2 Q Excuse me, you call this the twin chambers?  
3 A The twin chambers, right. That we developed  
4 in the early 1990s. This is a picture of  
5 the inside of one of those. And I think you  
6 can see from looking at it, it looks much  
7 more like a normal room, pleasing colors,  
8 it's much larger. In fact, it was over  
9 twice the size of the old chamber. It was  
10 much easier to bring in subjects, you know,  
11 to have them sit around the table and play  
12 cards and things like that while we were  
13 conducting an experiment.  
14 Q Dr. Ogden, we've primarily up until now been  
15 talking about Reynolds' work in developing  
16 markers for measuring environmental tobacco  
17 smoke.  
18 I want to switch and focus on the  
19 method development for developing ways to  
20 measure environmental tobacco smoke in real  
21 world environments. Okay?  
22 A Okay.  
23 Q Are these chambers that you described, the  
24 first environmental chamber and the twin  
25 chambers, used by Reynolds to measure

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- 1 environmental tobacco smoke in real world  
2 environments?  
3 A No.  
4 Q Why not?  
5 A Well, they're not real world environments.  
6 They're laboratory settings. We use them to  
7 develop our understanding of how to measure  
8 ETS in real environments, but they're not  
9 the real environments that we're ultimately  
10 seeking to know about. So they're simply  
11 laboratory tools that allow us to develop  
12 our understanding and develop our methods  
13 and markers that we've talked about.  
14 Q Has Reynolds developed a series of  
15 methodologies for measuring environmental  
16 tobacco smoke in real world environments?  
17 A Yes, we have.  
18 Q What was the first one?  
19 A I'm trying to think back. The first attempt  
20 that we undertook to try to measure ETS in a  
21 real world environment was to take some of  
22 the equipment out of our chambers, and we  
23 developed what we called in the lab a blue  
24 box sampler, and this was a fairly big  
25 thing. Actually, it was about the size of

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- 1 your podium there.  
2 Q Is this the equipment that you took out of  
3 the chamber?  
4 A Some of it, certainly. Not all of it. But  
5 there are pieces there. Basically what we  
6 took was a large blue box on wheels about  
7 the size of your podium, and a lot of these

8 things were like rack-mount stereo  
9 components, we could put them in racks. And  
10 we would actually reel this thing -- in  
11 fact, the first place we used it was a  
12 Christmas party. That would have been  
13 probably 1985.

14 Q How did the blue box work in those type of  
15 environments for measuring environmental  
16 tobacco smoke?

17 A It's a cliché, but there's good news and bad  
18 news. The good news was that it worked very  
19 well. I mean, it measured what was in the  
20 air very accurately, and we knew that it  
21 would because these are very large, very  
22 sophisticated laboratory-type pieces of  
23 equipment.

24 The bad news was that it was so large  
25 and so awkward that it changed the way

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1 people behaved.

2 Q What do you mean?

3 A Well, imagine, if you will, a rack that big  
4 with stereo components in it and there are  
5 lights flashing and you can hear little  
6 things humming, it changed the way people  
7 interacted with it. For example, there was  
8 one guy that I had never seen smoke a  
9 cigarette before, and he actually came over  
10 and picked up a cigarette and blew smoke at  
11 it to see if it would respond.

12 There were other people that I knew  
13 were smokers that actually left the room to  
14 smoke because they didn't want to interfere  
15 with the test. So we learned a very  
16 valuable lesson, maybe in psychology, that  
17 if we're too obvious in trying to measure  
18 ETS, we're going to change the way people  
19 behave. And if we change the way people are  
20 smoking and behaving, we're not getting a  
21 correct answer. So we realized this large  
22 type of equipment was too obtrusive, too  
23 obvious, and likely to lead us to an  
24 incorrect conclusion.

25 Q Does Reynolds still use the blue box

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1 methodology to measure environmental tobacco  
2 smoke?

3 A No. It was dismantled and put back in the  
4 laboratory where it belongs.

5 Q And what methodology was developed next for  
6 measuring environmental tobacco smoke in  
7 real world environments?

8 A Well, learning from the blue box example,  
9 there was a project that began immediately  
10 to try to shrink that down into something  
11 that was much smaller. And over the course  
12 of the next year or two, we developed a  
13 briefcase sampler that had miniaturized  
14 versions of many of these detectors and  
15 instruments, and that worked quite well for  
16 the time.

17 Q What was that called?  
18 A Actually, it was called a PASS, a P-A-S-S,  
19 which was an acronym for portable air  
20 sampling system. This was basically an  
21 attache case that was very sophisticated,  
22 that had a miniature computer in it. It  
23 had -- it could log data, it could record  
24 temperature and humidity, it could make  
25 other measurements of carbon monoxide. We

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1 could include in that ability to measure  
2 nicotine and particles. And at that time  
3 UVPD was the extent of our measurement  
4 capability.  
5 Q Was the PASS briefcase actually used to  
6 actually measure environmental tobacco smoke  
7 in real world environments?  
8 A It was used in many places.  
9 Q How was that done?  
10 A Let me say to start off with that the PASS  
11 worked so well that we patented that device.  
12 Actually licensed that to a company who  
13 manufactured those for sale to any scientist  
14 who wanted to buy one. We used the PASS  
15 briefcase in studies in aircraft cabins. We  
16 used them in studies in offices and  
17 restaurants and workplaces in a variety of  
18 settings.  
19 Q Let me stop you. Were these studies where  
20 measurements were actually made?  
21 A Yes. Measurements were made, sure.  
22 Q Please go ahead and explain.  
23 A As I indicated, we made measurements in a  
24 variety of environments; aircraft cabins,  
25 restaurants, workplaces, offices, probably

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1 others.  
2 Q Were the PASS measurement studies published  
3 in the scientific literature so that other  
4 scientists could review the measurements  
5 that were being made?  
6 A Yes, they were.  
7 Q What were the major lessons that were  
8 learned from the PASS measurement studies?  
9 A There were a variety of objectives in each  
10 experiment that was conducted. For example,  
11 one of the objectives in measuring ETS  
12 aboard aircraft cabins was to determine if  
13 the separation of smokers and nonsmokers was  
14 effective at minimizing ETS in the  
15 nonsmoking section. So an experiment was  
16 designed to study that.  
17 And we found out very clearly that it  
18 was, that there was very significant  
19 differences in ETS concentration in the  
20 smoking and nonsmoking sections.  
21 Q Let me stop you there. Did the separation  
22 of smokers and nonsmokers into different  
23 sections entirely eliminate the ETS exposure  
24 of nonsmokers?  
25 A In general, not. In an aircraft cabin, if

- 1 after you got more than two or three rows  
2 away from the smoking section, essentially  
3 yes, it was zero. But, for example, in a  
4 restaurant, we would find that, in most  
5 cases, it reduced the levels in the  
6 nonsmoking sections to very, very low  
7 levels, but with this sophisticated  
8 instrumentation we could still measure some  
9 things, yes.
- 10 Q Okay. Is the PASS briefcase the methodology  
11 that RJ Reynolds currently uses to measure  
12 environmental tobacco smoke in typical  
13 environments?
- 14 A No, it's not.
- 15 Q And could you give me a label for the type  
16 of methodology that's currently used?
- 17 A Well, I would describe the PASS briefcase as  
18 an area sampler. That is, it's something  
19 that you could set in a seat in an airplane  
20 or you can set in a seat at a restaurant and  
21 sample the air in a particular area.
- 22 Through the late '80s and certainly  
23 into the early 1990s, we and other  
24 scientists came to the conclusion that  
25 that's not the best information that we need

- 1 to get. What we need to get is what we  
2 would call personal exposures. So we  
3 developed and used, after the briefcase, we  
4 used personal sampling equipment; that is,  
5 equipment that you would actually hang on  
6 somebody's person and they would wear it  
7 wherever they went. So that's the type of  
8 studies that we then began doing in the  
9 early 1990s.
- 10 Q Dr. Ogden, have you brought with you today  
11 some examples of the personal samplers that  
12 were developed at RJ Reynolds for use in  
13 measuring tobacco exposures?
- 14 A Yes, I have.
- 15 Q With the Court's permission, I'd like to ask  
16 you to step down and use those devices to  
17 demonstrate to the jury the current state of  
18 the art for measuring environmental tobacco  
19 smoke in real world environments.
- 20 A Okay. Would it be possible to get a small  
21 table or a chair or something?
- 22 Q We've got a chair.
- 23 A Okay. Maybe I'll just bring it all out.
- 24 Q Do you need a second chair to set things on?
- 25 A It might be helpful, sure.

- 1 Q What's that contraption, Dr. Ogden?
- 2 A Be kind now. I spent years developing this.  
3 This is actually a prototype of a personal  
4 sampler that we developed starting in, I  
5 would say, 1992. And I can describe for you  
6 what it is. I brought some of the  
7 individual components that might be more

8 illustrative in describing what this is, but  
9 basically this is -- there are pumps down  
10 here in this box that actually suck air. Of  
11 course, you can see the hose that's  
12 connected here, and we actually draw air  
13 through this device up here. And there are  
14 pieces inside here that actually collect  
15 different things.

16 For example, there's a small tube  
17 inside here that collects nicotine. There's  
18 a filter inside here that collects the  
19 particles of tobacco smoke.

20 Q Let me ask you first, you describe this as a  
21 personal sampler. Is that actually worn by  
22 the person whose exposure is being sampled?

23 A It is. In fact, this is a typical way that  
24 it would be worn or could be worn. Some  
25 people would adjust this to wear either up

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1 on a collar or something, but many people  
2 would leave this what's called in the  
3 breathing zone. If you imagine, draw a  
4 two-foot raised circle around your nose,  
5 that's generally the breathing zone.

6 Q Is it battery powered?

7 A It is.

8 Q Can you turn it on and show us how it works?

9 A All right. Let me take it off just so I can  
10 point to it a little bit easier. This is a  
11 prototype that we developed, and it looks  
12 homemade because it is homemade. Let me  
13 show you the components here.

14 There's a pump on the inside, and we've  
15 actually taken some of the parts away from  
16 it to make it lighter. There are batteries  
17 underneath here. We have a timer here that  
18 actually will log the number of minutes that  
19 the sampler is run.

20 Q Why do you need that?

21 A Well, in an indoor air quality study, or  
22 personal monitoring study, we do several  
23 things. One, we would ask the participant  
24 to write down on a diary what time you start  
25 the pump. We would ask them to write down

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1 what time they stopped the pump. We need to  
2 know how long the pump ran so that we can  
3 make sense of the measurements, so we  
4 actually calculate a concentration and then  
5 actually calculate exposure.

6 Sometimes things don't work like you  
7 expect them to. Sometimes people would  
8 forget to write down the time. Sometimes  
9 the pump would fail, you know, the batteries  
10 would not operate. So it might run for five  
11 hours and maybe you had a bad battery, so we  
12 would still have a valid sample if we knew  
13 exactly how long it would run.

14 I just switched it on. You can hear it  
15 working to pull air. What it's actually  
16 doing now is drawing air through this --



17 actually two devices. One air inlet is here  
18 going through a filter and then one air  
19 inlet is here. You can hear when I block it  
20 off there and actually sampling for  
21 nicotine. And you can see the little timer  
22 running here.

23 Q So this is sampling for nicotine right now?

24 A It would be, yes, and particles. In fact,  
25 we could determine all of those things down

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1 through 3-EP if there was smoking going on  
2 in here. We could measure RSP even without  
3 smoking because there are particles in here  
4 as we speak.

5 Q Can all the markers down to 3-EP be measured  
6 simultaneously with that device?

7 A Yes, they can. It's simultaneously from the  
8 sense of from the sample I'm collecting  
9 right now. Once we are back in the  
10 laboratory we have to do different things,  
11 so it may take us as much as two days to  
12 measure all those things on a given sample  
13 but we can basically determine that on the  
14 samples we're collecting at one time, yes.

15 Q I think you also said that you have some  
16 additional instruments that can illustrate  
17 to the jury how the measurements are  
18 actually made with this device.

19 A Right. I realize starting there as I  
20 describe it that it's not obvious for some  
21 of these pieces you can't see through.

22 What I've got are just some components  
23 that are different, a little bit different,  
24 but they allow, I think, a much better  
25 envisioning of what's going on. This is

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1 simply a pump that draws air. That is a  
2 different kind of a pump inside that box,  
3 but this one is one that is sold by a  
4 company to do workplace monitoring for like  
5 OSHA compliance and things like that.

6 This is the filter that I talked about.  
7 It actually is inside a little holder. You  
8 can see the little white filter laying on  
9 the top there. This is a different filter  
10 than the one I showed you on Friday.

11 Q How does that work?

12 A Okay. This is a filter inside a little  
13 cassette, and you simply can put it on here  
14 and actually switch this on and draw air  
15 through it.

16 I've got a filter -- would it be  
17 appropriate to pass this around to the jury?

18 MR. FURR: Your Honor, would that  
19 be appropriate?

20 THE COURT: Go ahead.

21 MR. FURR: Would you hand it to  
22 Mr. Cassell, please.

23 THE WITNESS: That would be you.

24 MR. CASSELL: Yes.

25 A Obviously in the laboratory we would hold

- 1 these with forceps and wouldn't touch them  
2 with our finger but go ahead for now.  
3 That is a filter that's actually made  
4 out of Teflon and it has very, very small  
5 holes in it. In fact, it has holes that are  
6 one micron in diameter which is  
7 one-millionth of a meter. You can't really  
8 see the holes. You can see the pattern but  
9 that's not really the hole, but that's the  
10 same filter that's inside this thing.  
11 Q Is that filter used for measuring all these  
12 markers for environmental tobacco smoke?  
13 A Well, that filter would be used to measure  
14 RSP, UVP, FPM, and Solanesol.  
15 Q How would you measure nicotine?  
16 A Well, nicotine, we would have to use that  
17 little glass tube that I showed you. Again,  
18 I have one to pass around.  
19 Q Would you explain what you're passing around  
20 now, Doctor.  
21 A This is a small glass tube that is  
22 commercially available. We, in fact, worked  
23 with the company to develop this particular  
24 tube to make it as best as it can be for  
25 nicotine.

- 1 But that contains little white beads in  
2 it. They are actually a polymer. We call  
3 them XAD. It's just an abbreviation. But  
4 we've determined through experimentation  
5 that the XAD are very efficient for trapping  
6 nicotine. So as we suck air through that  
7 glass tube, any nicotine that's in the air  
8 would be stopped on that tube, just like if  
9 we suck air through that filter, any  
10 particles would be trapped on the filter.  
11 Q Doctor, let me ask you, do you conduct short  
12 courses for people interested in measuring  
13 environmental tobacco smoke on how to  
14 properly use these types of devices?  
15 A Yes, we do.  
16 Q Would you describe that for the jury,  
17 please.  
18 A We've done several training shops,  
19 workshops, I guess you would say. In some  
20 cases it would be just a lecture where I  
21 would stand up in an auditorium and show  
22 people with slides how to do it.  
23 There are other workshops, people come  
24 through the labs. There's a visiting  
25 scientist who will actually bring them into

- 1 the lab and do much what I'm doing right  
2 now. We show them exactly what we do; we  
3 show them the equipment; how to calibrate  
4 it; to use it; how to store the samples; how  
5 to make the determinations in the  
6 laboratory. And we've done that more times  
7 than I can count over the last ten years or

8 so.  
9 Q Dr. Ogden, you began by describing the box  
10 that you have opened as a prototype personal  
11 sampler; is that correct?  
12 A I did.  
13 Q Has RJ Reynolds made subsequent improvements  
14 upon that design?  
15 A We have.  
16 Q Do you have an example of the current  
17 personal sampler that is used to measure  
18 personal exposure to environmental tobacco  
19 smoke?  
20 A I do. That was a sampler that we developed  
21 to participate in a study with Oak Ridge  
22 National Laboratories. Which is called the  
23 16 City study.  
24 Q Let me stop you there. The jury's heard  
25 about the 16 City study. Was this type of

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1 sampler the type actually used in the 16  
2 City study?  
3 A In fact, that is one of the samplers that  
4 was used in the 16 City study. We changed  
5 it a little bit since then, but, basically,  
6 what we did was to change the battery pack.  
7 This one was changed to do some studies in  
8 Europe and we got into problems with  
9 different voltages and things so we went to  
10 disposable batteries.  
11 When the 16 City study was conducted,  
12 there were rechargeable Nicad batteries  
13 there, but that is actually one of the  
14 samplers used in the 16 City study.  
15 Q Would you explain how that's been improved  
16 in the current version.  
17 A Well, we developed that sampler for use in  
18 that study and we liked it so well that we  
19 thought others might like to use it, and we  
20 filed for a patent, filed a patent  
21 application on it. We actually patented  
22 that device.  
23 And there's a company -- actually, it's  
24 this company, it's SKC that makes this pump  
25 and actually makes that little tube that was

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1 going around. They licensed that patent  
2 from us and developed this sampler which is  
3 actually commercially available. You can  
4 buy these. In fact, if you have Internet  
5 access you can get a description of this on  
6 the Internet with a picture.  
7 But you can see it's a little more  
8 polished version. But all the pumps would  
9 be underneath here. In fact, they did a  
10 very nice job, that's their specialty. But,  
11 again, we have the disposable batteries.  
12 The off/on switch, ways of calibrating the  
13 exposure, timer on here which will actually  
14 switch on when you turn it on if, I can get  
15 my finger in there.  
16 Q Is it on now?

17 A It is on now. It gives you -- basically  
18 it's the same timer that you see on that  
19 pump. What they've done is dissect that  
20 pump and put the guts of it down under here.  
21 This is now actually sampling. One of  
22 the other things you may be able to  
23 appreciate is this one is much quieter,  
24 which is another advantage.

25 But this one would -- this one is

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1 what's available now. You can see, we've  
2 made some modifications up here. That  
3 little tube that I passed around is actually  
4 inside this housing here. The filter is  
5 inside this holder here. And now I'm  
6 collecting again a full battery of samples  
7 for all those analyses there.

8 Q Is that the way the device is actually worn  
9 during the personal exposure studies?

10 A Yes, it is.

11 Q How do you get people to wear that around  
12 all day?

13 A It's fashionable, isn't it? Why people can  
14 participate in studies, you're never rightly  
15 sure. But certainly they're told that we're  
16 doing an air quality investigation. We  
17 don't tell them generally that we're  
18 studying tobacco smoke, because we don't  
19 want to influence their behavior one way or  
20 another.

21 In most studies, we give them an  
22 incentive, a monetary incentive to  
23 participate depending on the complexity of  
24 the study; they're paid a gratuity for  
25 successful completion of the study. Most

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1 people are just fascinated by it. Let me  
2 have that thing, let's go see what we've  
3 got, so they really do that.

4 Q You say that that technology has been  
5 licensed to SKC?

6 A That's correct.

7 Q So, is that technology available to any  
8 scientist who wants to make ETS exposure  
9 measurements?

10 A It is. These are sold and available  
11 commercially. They're in their catalog.

12 Q And has Reynolds described that technology  
13 in the scientific literature?

14 A Right. In fact, we wrote one entire  
15 scientific publication just describing the  
16 development of that sampler and, of course,  
17 as it's translated into this one here, other  
18 than cosmetic differences, there is no  
19 difference.

20 Q Okay. Thank you. Take your seat, please.  
21 Okay. We'll leave those here for now.  
22 Maybe we can move them at the break so we  
23 don't have to stop.

24 A Okay. Sure.

25 Q Okay, Dr. Ogden, we've talked about markers

1 and methods and briefly about measurements,  
2 but I want to go to the work that RJ  
3 Reynolds has done in conducting personal ETS  
4 measurement studies, okay? Has the company  
5 conducted such studies?  
6 A We have, yes.  
7 Q What was the first study that Reynolds  
8 conducted?  
9 A Of personal ETS exposure?  
10 Q Yes.  
11 A This would be a study that we did in 1992 in  
12 Columbus, Ohio.  
13 Q What do you call that?  
14 A I would call it just the Columbus study.  
15 Q Would you explain to the jury the nature of  
16 the Columbus study.  
17 A Okay. In that study, we used a personal  
18 monitor that is actually different from what  
19 I've showed you there. We developed a  
20 different type of personal sampler that  
21 could just measure nicotine and 3-EP. So it  
22 didn't require the use of a pump. So it was  
23 very small, very light weight, and we  
24 actually had people wear that for a full  
25 week.

1 There's an advantage to that type of  
2 sampler. In other words, we gave up all  
3 these other markers, but what we got was  
4 exposure measurement for a full week. That  
5 was the design objective of that study.  
6 So we had people wear these monitors  
7 for a full week. When they were in bed,  
8 they simply unclipped them and laid them on  
9 the night stand. We had people that worked  
10 with smokers, we had people that lived with  
11 smokers, a variety of combinations.  
12 We also, in that study, we put that  
13 personal monitor on the spouses of the  
14 participants that were actually smokers. So  
15 we measured smokers' exposure to their own  
16 ETS. That's the first time that had ever  
17 been done. To my knowledge, the only time  
18 that still has ever been done.  
19 Q And Dr. Ogden, did the scientists at  
20 Reynolds publish the results of the Columbus  
21 study for other scientists to review?  
22 A Yes. It was presented at one meeting and  
23 there were two publications from that study.  
24 Q What was the next study that Reynolds  
25 conducted?

1 A The next study would have been in the  
2 suburban Philadelphia area. We called it a  
3 Pennsylvania/New Jersey study. That used  
4 equipment more similar to what I just showed  
5 you. In fact, I would say a predecessor to  
6 that first black box I showed you. We used  
7 that type of equipment to measure personal

8 exposures for one 24-hour period. Basically  
9 one full day. And, again, the same basic  
10 design.

11 Q What was the study design in the  
12 Pennsylvania/New Jersey study?

13 MR. MOTLEY: Excuse me, Your Honor.  
14 Could we have a date for that  
15 Pennsylvania/New Jersey study? I didn't  
16 hear it, if he gave it.

17 MR. FURR: Sure.

18 A I don't remember the exact date. I believe  
19 it was late 1992, maybe early '93. The  
20 publication would show the date.

21 Q So the results were published in the  
22 peer-reviewed literature for other  
23 scientists to review?

24 A Yes, they were.

25 Q And how was this study designed?

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1 A Okay. Again, we looked primarily at, of  
2 course, in this study we looked for subjects  
3 that reported themselves to be nonsmokers.  
4 We wanted to measure nonsmokers' exposure.  
5 We break the study down into some people  
6 that lived with smokers and worked with  
7 smokers, some people that just lived with  
8 smokers and don't work with smokers, vice  
9 versa, so basically we can assess from that  
10 study the effect of living with a smoker,  
11 the effect of exposure on working with a  
12 smoker, the effect on exposure if you've  
13 neither lived with nor worked with a smoker  
14 and see if we can measure any ETS exposure.  
15 So that was the general type of study  
16 design.

17 Q Okay. And would you -- you briefly  
18 mentioned, and the jury has learned, that  
19 Reynolds participated in what is known as  
20 the 16 City study.

21 A Right.

22 Q Would you describe what Reynolds' role was  
23 in that study.

24 A Our role in the 16 City study was first, as  
25 I described it earlier just a minute ago, to

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1 develop the sampling equipment. To do the  
2 type of study that was deemed most  
3 worthwhile, there was not equipment  
4 available to do that. So we developed the  
5 equipment that I showed you based on our  
6 previous knowledge and our previous  
7 experience with these types of studies.

8 We participated with Oak Ridge National  
9 Lab in collecting the samples. RJ Reynolds'  
10 laboratory was responsible for the analysis  
11 of the samples and reporting the data to Oak  
12 Ridge.

13 Q Now, Dr. Ogden, I want to ask you, based  
14 on -- let me back up. Are you familiar with  
15 the results that were obtained in the PASS  
16 study, the Columbus study, the

17 Pennsylvania/New Jersey study, and the 16  
18 City study?  
19 A Yes, I am.  
20 Q Based on those studies, what did RJ Reynolds  
21 learn about the relative exposures to  
22 environmental tobacco smoke in various  
23 environments?  
24 A One of the prime comparisons that we were  
25 interested in was the relative magnitude of  
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1 exposure of living with smokers versus  
2 working with smokers. And the conclusions  
3 from those studies was that living with a  
4 smoker resulted in five to ten times more  
5 ETS exposure than working with smokers.  
6 Q I'm sorry. I was writing. Five to ten  
7 times as much?  
8 A In general, yes. Generally, yes.  
9 Q And how did you learn that?  
10 A Well, by measuring it. By measuring people  
11 that -- exposure for people that lived with  
12 smokers, by measuring exposure for people  
13 that work with smokers and comparing the  
14 data that we got.  
15 Q Dr. Ogden, I may have forced you into sort  
16 of an artificial way of explaining all of  
17 this today. We've talked about markers,  
18 methods and measurements as though they were  
19 separate topics. Is that, in fact, how the  
20 research program at Reynolds was conducted  
21 on these issues?  
22 A Not at all.  
23 Q Would you explain how that was done.  
24 A Okay. Since you've got them listed up  
25 there, there's some good samples that come  
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1 to mind. Basically, I would describe it as  
2 an ebb and flow. We do some work with  
3 marker development, we then develop a method  
4 and we go make some measurements. In  
5 general, we learn something from those  
6 measurements and then we go back to the  
7 laboratory.  
8 For example, we started with the  
9 chamber, and we learned some things about  
10 nicotine. We developed a method for  
11 measuring nicotine in RSP. We used that in  
12 a blue box for some measurements at a  
13 Christmas party. We learned that didn't  
14 work very well, so we went back to the lab  
15 and scientists developed the PASS briefcase.  
16 At the same time as that was going on,  
17 another group of scientists was working on  
18 methods for measuring other markers. We  
19 validated and developed those in a chamber,  
20 and those were incorporated in the PASS  
21 briefcase as they became available.  
22 So really it's, you know, you do a  
23 little bit of each one almost simultaneously  
24 all the time. And then you make a progress  
25 in one area, apply it to another area, and

- 1 then go make some measurements, learn  
2 something else, come back and develop  
3 markers.  
4 So it's really been a little bit of all  
5 three of those for the last 12, 15 years.  
6 Q Dr. Ogden, have you spent a large part of  
7 your professional time over the last 13  
8 years working on these issues?  
9 A Yes, I have.  
10 Q New topic. Dr. Ogden, are you familiar with  
11 the concept of cigarette equivalents?  
12 A Yes, I am.  
13 Q Would you explain to the jury what is meant  
14 by the phrase "cigarette equivalents."  
15 A Okay. Cigarette equivalents is a concept  
16 that is used to try to explain the magnitude  
17 of ETS exposure basically to laypersons or  
18 to people that are not trained in the  
19 sciences.  
20 Q How are cigarette equivalents calculated?  
21 A Cigarette equivalents have embedded in them  
22 a number of different measurements. First  
23 of all, it requires a measurement of  
24 exposure that would be derived by using one  
25 of these pumping devices, for example, that

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- 1 I just showed you. You would also have to  
2 either measure or assume a person's  
3 breathing rate, that is, how much of that  
4 air that had that much ETS in it did they  
5 actually breathe in. Then you would also  
6 incorporate into that the amount of time  
7 that they spent in a given environment. Or  
8 over what period of time are you going to  
9 calculate cigarette equivalents. It could  
10 be the eight-hour workday, it could be a  
11 24-hour day, it could be a whole year.  
12 Then to make a comparison, what you do  
13 is for the same markers that you've measured  
14 in ETS, for the same chemicals, for example,  
15 like nicotine, you then have to either  
16 assume or measure that same marker in  
17 mainstream smoke. That is, how much is in a  
18 single cigarette. So what you do is you  
19 express ETS exposure in terms of how many  
20 cigarettes a smoker would have to smoke to  
21 equate to the same exposure.  
22 Q Dr. Ogden, have you and the other scientists  
23 at Reynolds done research into the use of  
24 cigarette equivalents as a way of describing  
25 the relative exposure of smokers and

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- 1 nonsmokers to tobacco smoke?  
2 A Yes, we have.  
3 Q Would you describe the research that you've  
4 done, please.  
5 A The research that we did culminated in a  
6 publication last year. It basically is the  
7 first attempt that we were aware of, that I



8 was aware of, to try to do a historical  
9 perspective on how people had used cigarette  
10 equivalents. So it involved a thorough  
11 literature search of the ways that other  
12 scientists had used the term "cigarette  
13 equivalents." We incorporated that into our  
14 paper.

15 But also we made new measurements.  
16 That is, we measured in mainstream smoke,  
17 that is, the smoke that the smoker gets, as  
18 many of these markers that we could to allow  
19 us to make -- for those scientists that  
20 wanted to use cigarette equivalents, to  
21 allow them to do the best job that they  
22 could with the most accurate information.

23 Q Was your review of the history of the use of  
24 cigarette equivalents published in a  
25 peer-reviewed publication?

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1 A Yes, it was.

2 Q I want to briefly walk through with you the  
3 chronology of the use of cigarette  
4 equivalents by scientists to describe ETS  
5 exposure. Okay?

6 A Okay.

7 Q To your knowledge, Doctor, based upon your  
8 research and review of the literature, when  
9 was the first time that cigarette  
10 equivalents were used to describe ETS  
11 exposures?

12 A The first incidence we could find was in  
13 1972.

14 Q And who was the first person to describe it  
15 in the literature?

16 A It was a Dr. Hoegg.

17 Q How do you spell that?

18 A H-O-E-G-G.

19 Q Who is Dr. Hoegg?

20 A He's a researcher at the University of  
21 Cincinnati.

22 Q Dr. Ogden, based on what you've told us, I  
23 take it that cigarette equivalents can be  
24 based upon a comparison of various  
25 constituents that the nonsmoker would be

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1 exposed to, to the level of that constituent  
2 that the smoker would inhale in smoking; is  
3 that right?

4 A That's right.

5 Q What constituents did Dr. Hoegg base his  
6 cigarette equivalents on?

7 A He reported two components. One he called  
8 TPM, which is total particulate matter; for  
9 the sake of our discussion, that would be  
10 roughly equivalent to RSP. And he also used  
11 carbon monoxide, abbreviated CO.

12 Q Could you trace for us the evolution of the  
13 use of cigarette equivalents by other  
14 investigators to describe ETS exposures,  
15 chronologically, if you can?

16 A I can try.

17 Q Okay.  
18 A The table that I had in that publication  
19 actually took two pages, but there were  
20 some, what I would call milestones within  
21 that.  
22 Q Okay.  
23 A 1975 there were researchers at the Harvard  
24 School of Public Health. Their names were  
25 Hinds and First, H-I-N-D-S. They were the

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1 first to use --  
2 Q Where were they?  
3 A Harvard School of Public Health.  
4 Q Okay. Go ahead.  
5 A They were the first that we could find that  
6 actually used cigarette equivalents in terms  
7 of nicotine.  
8 Q They used nicotine-based cigarette  
9 equivalents -- nicotine cigarette  
10 equivalents to make the comparison?  
11 A Yes, that's right.  
12 Q Okay. What was the next milestone?  
13 A I hadn't really thought about it in terms of  
14 milestones. Let me think about it. There  
15 were a variety of uses, certainly from '75  
16 through 1986 or so, some of -- again, other  
17 investigators using nicotine as a marker to  
18 calculate cigarette equivalents.  
19 Q Do you recall who some of those  
20 investigators were?  
21 A Dr. Muramatsu was one from Japan.  
22 Q How do you spell Muramatsu?  
23 A M-U-R-A-M-A-T-S-U.  
24 Q And did Dr. Muramatsu use nicotine as the  
25 basis for making cigarette equivalent

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1 comparisons?  
2 A Yes, he did.  
3 Q When did anyone associated with the United  
4 States cigarette manufacturing industry  
5 first use nicotine as a basis for deriving  
6 cigarette equivalents to describe the  
7 exposure of a nonsmoker?  
8 A I would say 1986 was our first use of it.  
9 Q And that was Reynolds?  
10 A That was Reynolds, yes.  
11 Q And that was nicotine?  
12 A Yes.  
13 Q Since Reynolds began using nicotine as a  
14 basis for deriving cigarette equivalents,  
15 have there been other investigators that  
16 have continued to derive cigarette  
17 equivalents based upon a nicotine  
18 comparison?  
19 A Yes, there are.  
20 Q And could you identify some of them, please?  
21 A One name is Brunemann.  
22 Q Brunemann?  
23 A Right.  
24 Q And when was that done, do you know?  
25 A I would say '87 or '88. I'm not exactly

1 sure which.  
2 Q Okay.  
3 A Another investigator would be Phillips.  
4 Q And when was that?  
5 A That's more recent. I would say that was  
6 '95, '96.  
7 Q And did Brunemann and Phillips use nicotine  
8 as the basis for their cigarette equivalent  
9 comparisons?  
10 A They did. They may have used others. I  
11 know they used nicotine.  
12 Q And were Brunemann and Phillips associated  
13 in any way, to your knowledge, with the  
14 United States cigarette manufacturing  
15 industry?  
16 A No.  
17 Q Dr. Ogden, in addition to using nicotine as  
18 the basis for deriving cigarette  
19 equivalents, have you used other markers of  
20 environmental tobacco smoke to do so?  
21 A Yes, I have.  
22 Q What have you used?  
23 A Well, let's see. Looking at the list of  
24 markers here, I've used nicotine, RSP, UVPM,  
25 FPM, Solanesol, and a marker called

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1 scopoletin.  
2 Q Called what?  
3 A Scopoletin.  
4 Q Okay. How did you select those chemicals to  
5 use as the basis for deriving cigarette  
6 equivalents?  
7 A Those were the entire list of markers that  
8 we had measured in one or another personal  
9 monitoring study. And they were also good  
10 markers of ETS based on the criteria of what  
11 a good marker should be. And they were also  
12 markers for which we had exact measurements  
13 for what's in the mainstream smoke, in a  
14 typical cigarette.  
15 Q Now, when you're deriving cigarette  
16 equivalent comparisons, do you get the same  
17 answer regardless of which marker that you  
18 use as the basis for the comparison?  
19 A Generally, no.  
20 Q How does that work?  
21 A There are a variety of things that go into  
22 that. As you can imagine or hopefully --  
23 maybe you can imagine, that with a range of  
24 markers, six or seven different markers, you  
25 will develop a sense of cigarette equivalent

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1 exposures over some range. Now, with these  
2 markers, which are generally believed to be  
3 the best markers of ETS exposure, the range  
4 is not all that large, but certainly you  
5 don't get exactly the same number.  
6 Q Does the use of nicotine-based cigarette  
7 equivalents overestimate or underestimate

8 the equivalent exposure that you would get  
9 if you used these other markers?  
10 A In general, based on our research, nicotine  
11 as a marker tends to overestimate exposure  
12 in terms of cigarette equivalents to these  
13 other markers.  
14 Q Dr. Ogden, is there a debate in the  
15 scientific literature regarding the use of  
16 nicotine-based cigarette equivalents to  
17 describe nonsmoker ETS exposure?  
18 A Yes, there is.  
19 Q Are you familiar with that debate?  
20 A Yes, I am.  
21 Q Would you describe for the jury the issues  
22 that are being debated.  
23 A Okay. Let me think about those for just a  
24 second.

25 One of the central issues is the fact  
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1 that if you use a different marker, you may,  
2 in fact, get a different answer. So that is  
3 not all markers yield the same result in  
4 terms of cigarette equivalents.

5 There are other issues revolving around  
6 whether or not you have to use a marker  
7 that's actually been measured or whether you  
8 can try to predict that from laboratory  
9 measurements. Those, I would say, are the  
10 two central issues around cigarette  
11 equivalents.

12 Q Okay. New topic, Dr. Ogden. You told us  
13 based upon the PASS, Columbus,  
14 Pennsylvania/New Jersey, and 16 City study  
15 that workplace ETS exposures in environments  
16 where smoking wasn't restricted were on  
17 average about one-fifth to one-tenth that  
18 that someone would obtain living with a  
19 smoker; is that correct?

20 A That's correct.

21 Q Dr. Ogden, this is a yes or no question. Do  
22 you have an opinion that you hold with a  
23 reasonable degree of scientific certainty as  
24 to how Mrs. Wiley's environmental tobacco  
25 smoke exposures at the Marion VA would

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1 compare to the workplace exposures that you  
2 measured in these other studies?

3 A Yes, I do.

4 MR. MOTLEY: Your Honor, excuse me.  
5 I think we need to approach to see where  
6 you're going.

7 THE COURT: All right.

8 (Bench discussion)

9 THE COURT: All right. Sorry,  
10 ladies and gentlemen.

11 Continue, Mr. Furr.

12 Q Dr. Ogden, did you answer that question?

13 A I think I did, yes. I said yes.

14 Q Dr. Ogden, I don't want you to provide that  
15 opinion yet, but I would like you to explain  
16 to the jury how you went about developing

17 your opinion with respect to how Mrs.  
18 Wiley's workplace exposures would compare to  
19 the workplace exposures that you examined in  
20 the PASS, Columbus, Pennsylvania/New Jersey  
21 and 16 City study. I'm asking you for the  
22 basis of that opinion.

23 A Well, the first thing that I would do, or  
24 that I did, was to review what I called the  
25 physical evidence in the case. That is, the

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1 description of her workplace in terms of  
2 height of the ceilings, how big this space  
3 was. What was known about the ventilation  
4 conditions, forced air movement, fresh air,  
5 these kinds of things. This is what I would  
6 look for, in fact, what I did look for.

7 I looked for a description of the  
8 number of -- I'll say it in a more succinct  
9 way and then go back and explain it -- the  
10 number of cigarettes that could have been  
11 smoked in her presence. That would be a  
12 combination of the number of people that are  
13 likely to be smoking and the opportunity to  
14 smoke, to try to derive an estimate of  
15 number of cigarettes that may have been  
16 smoked, for example, by the patients in the  
17 hospital. And compare that to measurements  
18 that we've made counting cigarettes that are  
19 smoked in a restaurant, for example.

20 I went further and actually visited the  
21 VA Hospital and inspected the work space.  
22 So not only did I rely on the blueprints to  
23 look at the size of the work space, but  
24 actually walked through the ward where she  
25 worked and also her office, the nurse's

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1 station, those types of things, to be able  
2 to compare what exposures might have been in  
3 a scientific way to what we had measured,  
4 and the observations that we had made in  
5 those various settings where we have made  
6 measurements.

7 Q And what were the sources of those types of  
8 information that you looked to to glean that  
9 information?

10 A A variety of sources. I mentioned the  
11 blueprints. Of course, a walk through the  
12 hospital is obvious. I reviewed the  
13 depositions and affidavits of some of her  
14 co-workers that had been provided some  
15 months ago. The letters and, I guess, I  
16 don't know if they were affidavits or  
17 depositions by the hospital administrators  
18 that described the work space or remodeling  
19 modifications that had been made to the work  
20 space, the number of patients that would  
21 have smoked, the opportunity to smoke, where  
22 cigarettes were kept, all those types of  
23 pieces of information.

24 Q Dr. Jenkins -- Jenkins, I did that Friday.  
25 Dr. Ogden, did you have access to any actual

- 1 measurements of environmental tobacco smoke  
2 in Mrs. Wiley's workplace?
- 3 A No. I'm not aware that there are any or  
4 were any.
- 5 Q Now, in the absence of having access to  
6 actual measurements of the exposure of  
7 interest, are the types of factors that  
8 you've just described the types of factors  
9 that exposure scientists customarily rely  
10 upon when conducting retrospective exposure  
11 assessments, and by that I mean looking  
12 back?
- 13 A The answer is yes. As a measurement  
14 scientist, I would tell you that the best  
15 way to determine exposure is to go measure  
16 it. In the absence of having a measurement,  
17 you would have to rely on these other pieces  
18 of what I call physical evidence, factors  
19 that would have impacted the level, and you  
20 make an assessment based on your scientific  
21 expertise and training and having evaluated  
22 those in other studies.
- 23 Q And in the absence of having those  
24 measurements, are the factors that you've  
25 just described, viewed by exposure

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- 1 assessment experts as reliable factors to  
2 consider in formulating an opinion?
- 3 A Yes. It's the only way to do it.
- 4 Q It's the only way to do it?
- 5 A Correct.
- 6 Q Dr. Ogden, I'd like for you to give the jury  
7 your opinion, and I'd like for you to state  
8 it with a reasonable degree of scientific  
9 certainty, as to how Mrs. Wiley's  
10 environmental tobacco smoke exposure at the  
11 VA Hospital would compare to the typical  
12 workplace exposures that were examined in  
13 the studies that you've described today.
- 14 A Based on all of the factors that I've  
15 described to you earlier, I've seen nothing  
16 in the exposure factors or exposure evidence  
17 that would indicate that the exposure in her  
18 workplace was very different from a typical  
19 workplace where smoking is allowed.
- 20 Q Dr. Ogden, I want you to assume that there  
21 has been testimony in this case that there  
22 has been a scientific survey of Mrs. Wiley's  
23 co-workers conducted that indicate that  
24 after the year 1979, her exposure to tobacco  
25 smoke generated by her co-workers would have

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- 1 been very small. Are you with me?
- 2 A Okay.
- 3 Q Would that evidence have made a difference  
4 in your opinion?
- 5 A Let me make sure I understand. You said  
6 that from after '79, the exposure resulting  
7 from her co-workers' exposure --

8 Q No. I'm sorry. I misstated that, if that's  
9 what I said.  
10 A Maybe I misunderstood.  
11 Q That after 1979, the scientific survey  
12 indicates that the exposures generated from  
13 ETS from cigarettes being smoked by the  
14 patients would have been very small.  
15 MR. MOTLEY: Sorry, Your Honor, I  
16 don't know how to properly phrase an  
17 objection to that question.  
18 MR. FURR: It's what we just  
19 discussed.  
20 MR. MOTLEY: I understand that.  
21 Very small was discussed. The foundation  
22 wasn't. And so I object based on the  
23 question that was posed.  
24 MR. FURR: Your Honor, I think I've  
25 established the Daubert foundation.

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7002

1 THE COURT: I'll allow the  
2 question, Rule 703. But why don't you  
3 restate your question.  
4 Q Let me start again.  
5 Dr. Ogden, I would like for you to  
6 assume that there has been testimony in this  
7 case that based upon a scientific survey of  
8 Mrs. Wiley's co-workers, that after the year  
9 1979, Mrs. Wiley's exposure to environmental  
10 tobacco smoke generated from smoking by the  
11 patients would have been very small.  
12 Understand?  
13 A I understand.  
14 Q Would that affect your opinion regarding how  
15 Mrs. Wiley's ETS exposure would have  
16 compared to typical workplace exposures?  
17 A No, it really wouldn't. Because in my  
18 review of --  
19 MR. MOTLEY: Your Honor, he was  
20 asked a question. He wasn't asked why, and  
21 I have an objection to the why business.  
22 THE COURT: He answered the  
23 question.  
24 MR. FURR: That's all I have, Your  
25 Honor. Thank you.

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7003

1 THE COURT: Thank you, Mr. Furr.  
2 Mr. Motley.  
3 MR. MOTLEY: Good morning, ladies  
4 and gentlemen, Your Honor, Counsel.  
5 CROSS-EXAMINATION  
6 BY MR. MOTLEY:  
7 Q Dr. Ogden, my name is Ron Motley. You and I  
8 have, I don't believe, ever met.  
9 A Not to my knowledge, no, sir.  
10 Q Dr. Ogden, do you ever go to the movies?  
11 A Not very much, but I do occasionally.  
12 Q Do you remember the movie Casablanca?  
13 A Believe it or not, I've never seen it. I  
14 know what it is, though.  
15 Q How about Reservoir Dogs, did you ever see  
16 that?

17 A No, sir. I never heard of that one.  
18 Q The Odd Couple?  
19 A I'm familiar -- I have seen that.  
20 Q Tin Men, Danny DeVito?  
21 MR. FURR: Your Honor, it seems to  
22 me to be not very relevant.  
23 MR. MOTLEY: I'm getting to the  
24 relevance.  
25 THE COURT: All right.  
OGDEN-CROSS

7004

1 Q I'm talking and working all at the same  
2 time.  
3 Dr. Ogden, for some reason I can't ever  
4 get this chart, it's always lopsided when  
5 I'm working with it. You used a word over  
6 there a minute ago, and I want to ask you  
7 what that means.  
8 Mr. Furr asked you a question about a  
9 reasonable degree of scientific certainty.  
10 Do you remember that?  
11 A I recall him saying something like that,  
12 yes.  
13 Q What does that mean?  
14 A Well, that would, to me, mean the -- a  
15 scientific assessment based on the best  
16 available evidence.  
17 Q Well, does it mean that it's beyond a  
18 reasonable doubt to you?  
19 A That strikes me as a legal phrase. I'm not  
20 sure I would use that phrase as a scientist.  
21 Q I want to know as a scientist what that  
22 means to you. Does that mean that it's more  
23 probably true than not true?  
24 MR. FURR: Objection, Your Honor.  
25 This is asked and answered.

OGDEN-CROSS

7005

1 THE COURT: No. He can answer  
2 that.  
3 Q Do you believe it's more probably true what  
4 you -- when you gave your opinion, did you  
5 believe that your opinion was more probably  
6 true than untrue?  
7 A Yes, I did.  
8 Q Okay. Now, this is unfair to you because  
9 you can't see this, but I'm going to read  
10 you what it says because I know probably  
11 most of the folks on the jury can't read my  
12 writing anyway. They said I should have  
13 been a doctor because I can't write. But  
14 what I wrote up here was ETS is a lung  
15 cancer risk for nonsmokers exposed for a  
16 long time in a workplace.  
17 Do you agree with that? A risk factor  
18 for lung cancer?  
19 MR. FURR: Objection, Your Honor.  
20 He's not a health witness. He's exposure in  
21 chemistry --  
22 MR. MOTLEY: Your Honor, he's here  
23 from the corporation, and I'm entitled under  
24 the rule to ask him questions with wide  
25 latitude.



1 THE COURT: You may answer.  
2 A I'll answer your question, make sure I  
3 understand.  
4 Q I want to -- if you cannot answer this, can  
5 you tell me whether ETS is a risk factor for  
6 lung cancer in nonsmokers who are exposed in  
7 a workplace to other people smoking, yes or  
8 no?  
9 MR. FURR: Judge, objection.  
10 MR. MOTLEY: He hasn't answered the  
11 question. Once he answers the question, he  
12 can give his explanation.  
13 THE COURT: You can answer the  
14 question yes or no. Are you able to give  
15 that statement, opinion?  
16 A Are you asking me for an expert opinion, or  
17 are you asking me for a personal opinion?  
18 Q I'm asking you as an RJR scientist, who's  
19 worked with ETS. That's what you talked  
20 about here for the last two or three hours,  
21 right, ETS?  
22 A Sure.  
23 Q Can you tell me as an RJR scientist heavily  
24 involved in ETS, is lung cancer a risk  
25 factor for nonsmokers exposed in a

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7007

1 workplace, yes or no?  
2 A I'm not sure I can answer that yes or no.  
3 Q You can't, okay.  
4 Can you answer this yes or no: Your  
5 position is, and you've already, in your  
6 deposition, you can't tell the ladies and  
7 gentlemen of the jury whether cigarette  
8 smoking is a risk factor -- excuse me,  
9 whether cigarette smoking causes lung cancer  
10 in people who smoke two to three packs of  
11 Camel cigarettes for 30 years, can you?  
12 MR. FURR: Your Honor, I want to  
13 object on two bases. First, he's not a  
14 health expert. Second, it's not a proper  
15 form to start asking him about what he said  
16 in the deposition. He's got to ask him the  
17 question first.  
18 MR. MOTLEY: I'll rephrase it.  
19 THE COURT: All right. Rephrase  
20 it.  
21 Q You know who Andrew Shindler is, don't you?  
22 A Yes, I do.  
23 Q Tell the jury who he is.  
24 A He's the president and CEO of RJ Reynolds  
25 Tobacco Company.

OGDEN-CROSS

7008

1 Q He's the main man at your company?  
2 A That's not what I said. I said he's the  
3 president and CEO of RJ Reynolds Tobacco  
4 Company.  
5 Q What company do you work for?  
6 A I work for RJ Reynolds Tobacco Company.  
7 Q Who's the head of him at RJ Tobacco -- if

8 he's the president and chief executive  
9 officer, is there somebody above him at  
10 RJRT?  
11 A Not at RJRT.  
12 Q So he's the main man?  
13 A That's not the word I would use.  
14 Q Who is mainer than he is at RJR Tobacco?  
15 MR. FURR: Objection.  
16 Argumentative.  
17 THE COURT: Do you understand the  
18 question?  
19 A Well, I don't know what main man means.  
20 Q You're from the south. You know what we  
21 mean. You're from the south, aren't you?  
22 A I am, yes, sir.  
23 Q Okay. I'm going to play like I'm from  
24 Mexico. Who is numero uno at RJR Tobacco,  
25 number one?

OGDEN-CROSS

7009

1 A He's the head of RJ Reynolds Tobacco  
2 Company. I think I've answered your  
3 question.  
4 Q You agree with Mr. Shindler that you,  
5 Dr. Ogden, don't know, as you sit here  
6 today, 1998, whether or not long-term -- I'm  
7 not talking about ETS now. I'm talking  
8 about smoking -- people smoking two or three  
9 packs a day, my word, causes lung cancer?  
10 You don't know, do you?  
11 A As you've asked that question, the answer is  
12 no, I don't know.  
13 Q You don't know?  
14 A I know it's a risk factor, but I don't know  
15 when you use the word "cause," no, I don't  
16 know.  
17 Q So it's the position, your position and the  
18 position of your company, which is known to  
19 you, that as you sit here today, RJ Reynolds  
20 will not admit that a single smoker since  
21 1954, not a single one, not a single smoker,  
22 has ever developed a disease called lung  
23 cancer caused by smoking cigarettes?  
24 MR. WAGNER: Judge, this is all  
25 outside the scope of proper

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7010

1 cross-examination. None of this was gone  
2 into on direct.  
3 MR. MOTLEY: He's a party, Your  
4 Honor.  
5 THE COURT: Overruled.  
6 Q The answer to my question is you don't know,  
7 do you? Not a single one?  
8 A I've lost track of your question.  
9 Q I'll ask it again. I'll ask her to ask the  
10 question before the objection.  
11 (The requested material was read by the  
12 reporter.)  
13 A I'm not sure I'm here to give you a position  
14 statement for the company. I can tell you  
15 what my scientific opinion is in areas that  
16 I've studied.

17 Q Let's go back again. You are not willing,  
18 as an RJR scientist, to look this jury in  
19 the eye and tell them that a single American  
20 has ever had their cigarette smoking cause a  
21 case of lung cancer, are you?  
22 MR. WAGNER: Argumentative and  
23 repetitive, Your Honor.  
24 MR. MOTLEY: I'll withdraw it.  
25 THE COURT: All right.  
OGDEN-CROSS

7011

1 Q What is very small? What does very small  
2 mean?  
3 A That depends upon the context in which you  
4 use it.  
5 Q Well, you used it this morning, didn't you?  
6 A Right.  
7 Q Have you ever seen a blue haze of smoke in a  
8 room where 10 or 12 people were smoking,  
9 sir?  
10 A I would never describe -- I don't think I've  
11 ever described it as a blue haze, no.  
12 Q Have you ever seen it so smokey that you  
13 can't really see any people in the  
14 background?  
15 A No.  
16 MR. MOTLEY: Your Honor, I would  
17 like to show the witness some film clips  
18 from some movies now and ask him if that's  
19 very small or very large or what because  
20 he's expressed an opinion.  
21 MR. WAGNER: Hang on a minute. Can  
22 we approach?  
23 THE COURT: All right.  
24 MR. MOTLEY: This may be prolonged,  
25 Your Honor. Do you want to --  
OGDEN-CROSS

7012

1 (Bench discussion)  
2 THE COURT: Go ahead, Mr. Motley.  
3 Q Now, if every -- you'll have a monitor  
4 there, sir.  
5 A This one?  
6 Q Yes, sir. Now, I'm going to show you some  
7 clips. Can everybody see? We don't have  
8 any popcorn, unfortunately. This is from  
9 Casablanca. Do you see the fan?  
10 Stop it right there. Sir -- don't show  
11 anything yet. I'm asking questions.  
12 Would RJ Reynolds consider the smoke  
13 that was in that room, in that movie,  
14 Casablanca -- I'm not here telling you -- I  
15 wasn't there. Just the pictures portrayed  
16 there. First question, would RJ Reynolds  
17 consider that very small, medium, or a lot  
18 of smoke for people to have been breathing  
19 in that room?  
20 A I need to ask you to re-ask that question in  
21 a way I can answer it. Are you asking me  
22 about concentration or are you asking me  
23 about exposure?  
24 Q You used the word "very small" this morning  
25 when Mr. Furr asked you, didn't you?

1 MR. FURR: Your Honor, that's an  
2 unfair question. We talked about very small  
3 exposures.  
4 Q I'm going to ask you right now --  
5 THE COURT: That's a fair question.  
6 Q I'll use those words, very small exposures.  
7 Is that very small exposure, moderate  
8 exposure, or heavy exposure what we just saw  
9 on the screen?  
10 A Okay. For the duration that somebody would  
11 be in that room, that would be a moderately  
12 high exposure.  
13 Q What about that piano player? What if he  
14 started up at 5:00 and didn't quit until  
15 midnight. That's seven hours, would he have  
16 a lot of exposure?  
17 A Yes, he would.  
18 Q And would that exposure from that piano  
19 player, if he stayed right there at that  
20 same bar for 25 years, seven hours a day,  
21 five days a week, would that kind of smoking  
22 be a risk for lung cancer for that man?  
23 A I'm not aware that ETS has been shown  
24 scientifically to be a risk factor at any  
25 level.

1 Q At any level.  
2 A So to answer your question is, I don't think  
3 that it's been shown. I can't say that it's  
4 not, but I can say I don't think it's been  
5 shown.  
6 MR. MOTLEY: Your Honor, I want to  
7 ask this witness now if he agrees or  
8 disagrees with the testimony of the witness  
9 that preceded him to the witness stand for  
10 the defendants, Dr. Bennett. Page 6842.  
11 MR. WAGNER: Objection, Your Honor.  
12 It's improper to ask a witness to comment  
13 upon testimony of another witness in a case  
14 that he hasn't heard. Dr. Bennett was a  
15 medical doctor.  
16 MR. MOTLEY: Dr. Bennett wasn't  
17 what? He was a medical doctor, was brought  
18 in here as an expert witness by RJ Reynolds  
19 and the other defendants, Your Honor.  
20 THE COURT: Is your question --  
21 MR. MOTLEY: I'm going ask him if  
22 he agrees or disagrees what the jury heard  
23 Dr. Bennett say last Friday.  
24 MR. WAGNER: Judge, that's highly  
25 improper.

1 THE COURT: As a basis of his  
2 opinion today?  
3 MR. MOTLEY: Yes, sir.  
4 THE COURT: You can do that.  
5 MR. MOTLEY: Thank you.  
6 Q When we're talking about risk factors and  
7 environmental tobacco smoke, people work in

8 occupations, okay?  
9 A Okay.  
10 Q I'm going to ask you if you agree or  
11 disagree with what, hopefully, we'll get on  
12 the screen here in a second.  
13 MR. OHLEMEYER: Your Honor, I don't  
14 have any objection -- I do have an objection  
15 to the question. I also have an objection  
16 to the form. I don't think it's proper to  
17 put an unofficial record on the screen like  
18 this and ask the jury to read it. If he has  
19 a question he ought to ask the witness a  
20 question but we shouldn't be dragging things  
21 into court that aren't part of the record.  
22 MR. MOTLEY: Well, wait a minute,  
23 Your Honor. We have a court reporter who is  
24 taking down the testimony. I don't know  
25 what he's talking about. We've asked  
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1 questions --  
2 MR. OHLEMEYER: He knows exactly  
3 what I'm talking about, Your Honor.  
4 MR. MOTLEY: No, I don't. I have  
5 no clue what he's talking about. I thought  
6 we had a court reporter who is reporting the  
7 transcript of this trial. Let me take it  
8 off the screen if there's a problem with  
9 this thing.  
10 THE COURT: Why don't you read it,  
11 Counselor.  
12 MR. MOTLEY: Your Honor, I will.  
13 Q Dr. Bennett -- by the way, have you studied  
14 any of his publications on lung cancer?  
15 A No, I haven't.  
16 Q Have you ever heard of him before?  
17 A Not before this case, no, sir. But I  
18 wouldn't expect to, though. I'm a chemist,  
19 I'm not a medical doctor.  
20 Q I believe -- and he was talking about  
21 Mr. Butler, a barber. You know about  
22 Mr. Butler's case, too, don't you?  
23 A I'm aware of a case with a --  
24 Q You're more than aware of it. You're a  
25 witness in the case, aren't you?

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1 A I'm aware of the case.  
2 Q You know he was a barber who didn't smoke  
3 but the people in his barber shop smoked.  
4 You understand those are the allegations,  
5 don't you?  
6 A Those are part of the allegations. I'm not  
7 sure if that wholly encapsulates them or  
8 not.  
9 Q Dr. Bennett told the jury on Friday, "I  
10 believe Mr. Butler had a lung cancer. I  
11 believe it's an adenocarcinoma. And I  
12 believe, in my opinion, the pattern of  
13 secondhand smoking again is not the cause of  
14 his lung cancer. It is a risk factor." He  
15 told the jury.  
16 You don't agree that, as you sit here

17 today, Reynolds doesn't agree that people  
18 occupationally exposed at work who are  
19 nonsmokers for 25 or 30 years to  
20 environmental tobacco smoke, you're not  
21 willing to concede today that that is a risk  
22 factor for lung cancer, are you?  
23 A Let me tell you what I've studied and let me  
24 tell you how it relates to the answer to  
25 your question.

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1 Q Excuse me, sir, you have to answer --  
2 MR. WAGNER: That is the answer. I  
3 think he's entitled to explain his answer.  
4 MR. MOTLEY: He hasn't given an  
5 answer. When he gives an answer he can  
6 explain it. He hasn't given his answer.  
7 THE COURT: The last question can  
8 be answered yes or no, Mr. Wagner.  
9 Q You're not willing, RJ Reynolds, sitting in  
10 here today is not willing to look these  
11 folks on the jury in the eye and even admit  
12 that ETS is a risk factor for lung cancer in  
13 people who are exposed in the workplace, are  
14 they?  
15 MR. WAGNER: Object to the  
16 argumentative nature and characterization of  
17 Counsel's question, Your Honor.  
18 THE COURT: You may answer.  
19 Overruled.  
20 A The answer is no, because I don't believe  
21 that's been scientifically established.  
22 Q We're going to get into that.  
23 Now, Dr. Ogden, RJ Reynolds is  
24 currently and has been interested in  
25 exploiting the general public's fear that

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1 ETS has an effect upon human health, aren't  
2 they? Exploiting, commercially, make money,  
3 off the public's fears, aren't you?  
4 A I don't understand your question.  
5 Q You don't.  
6 A No, sir.  
7 Q You know what Premier and Eclipse are, don't  
8 you?  
9 A Yes, I do.  
10 Q Tell the ladies and gentlemen of the jury  
11 what Premier is.  
12 A Premier is a cigarette that RJ Reynolds  
13 developed through the 1980s and test  
14 marketed in the late 1980s that had a number  
15 of design attributes, one of which included  
16 to simplify the chemistry of sidestream and  
17 mainstream smoke, to reduce the biological  
18 activity of cigarette smoke as it's measured  
19 in laboratory tests, and also to reduce the  
20 potential for annoyance due to ETS.  
21 Q And tell them what Eclipse was.  
22 A Well, Eclipse is a cigarette that is  
23 currently being test marketed by RJ Reynolds  
24 that in many ways is similar to Premier but,  
25 all in all, those are cigarettes that

- 1 primarily heat tobacco rather than burning  
2 tobacco.
- 3 Q All right. And isn't RJ Reynolds launching  
4 and conducting a campaign in which you boast  
5 and try to sell this cigarette on the  
6 grounds that it has 90 percent less  
7 secondhand smoke?
- 8 A That is a claim that we make because that's  
9 what the science shows, yes, sir.
- 10 Q And you also -- you know that one of the  
11 issues in this case is whether or not the  
12 secondhand smoke in that hospital was so  
13 prevalent and persistent that they had to  
14 come and wash down the walls from all the  
15 nicotine stains and repaint it frequently  
16 because the nicotine was so bad in those  
17 rooms that it turned the paint different  
18 colors. You know that allegation from your  
19 reading of the deposition and affidavits,  
20 don't you?
- 21 A I do not recall hearing that, no, sir.
- 22 Q You don't recall -- you didn't consider the  
23 testimony of the gentleman who testified  
24 about having to repaint the walls because  
25 the nicotine stains were so great?

- 1 A I don't recall seeing that.
- 2 Q You don't recall that? Well, tell the  
3 ladies and gentlemen of the jury, doesn't  
4 your company brag and boast about Eclipse  
5 claiming that you don't have to -- no longer  
6 do you have to wash down the walls, no  
7 longer do you have to repaint the walls from  
8 nicotine stains because of that cigarette,  
9 don't you?
- 10 A I'm not aware of that ad campaign.
- 11 MR. MOTLEY: Your Honor, we move  
12 the introduction at this time of the Eclipse  
13 ad campaign. I'll hand Your Honor a copy of  
14 it.
- 15 THE COURT: Thank you. This is 79.  
16 You've had a chance to examine it,  
17 Mr. Furr?
- 18 MR. FURR: Are these ads that have  
19 been published, Mr. Motley?
- 20 MR. MOTLEY: Yes, sir.
- 21 MR. FURR: No objection, Your  
22 Honor.
- 23 THE COURT: 79 will be admitted.  
24 (Plaintiffs' Exhibit(s) 79 received in  
25 evidence.)

- 1 Q First one I want to ask you about,  
2 Dr. Ogden, is the one that says, "Imagine a  
3 cigarette smoke that smells like this."  
4 It's got a picture of a bottle of water, it  
5 looks like, doesn't it?
- 6 A Let me find it.
- 7 Q It's the big one.

8 A Okay. I see it.  
9 Q You see the picture of the bottle of water;  
10 right?  
11 A I do.  
12 Q It says, right in the middle of the script  
13 it says, "With close to 90 percent less  
14 secondhand smoke." Doesn't it? Do you see  
15 that? Do you see right over by the pictures  
16 of the packs of cigarettes, the script?  
17 A Oh, yeah, okay. I see that.  
18 Q Third line down, "close to 90 percent less  
19 secondhand smoke"?  
20 A That's right.  
21 Q "There are no ashes and practically no  
22 stains on the walls and the windows." Don't  
23 they say that?  
24 A It says that, yes.  
25 Q Do you see the Eclipse, "A Whole New World  
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1 for Smokers" brochure, sir?  
2 MR. MOTLEY: This is the multi-page  
3 one, ladies and gentlemen, right here, the  
4 smaller one. Does everybody have one?  
5 Q On the second page it says, "Discover a new  
6 freedom to enjoy smoking." Do you have  
7 that, Dr. Ogden?  
8 A Well, I'm trying to catch up with you on the  
9 text. You say it's on page 2?  
10 Q Yes, sir. It says, "Discover a new  
11 freedom." Do you see that?  
12 A No, I don't.  
13 MR. MOTLEY: May I help him, Your  
14 Honor?  
15 THE COURT: Go ahead.  
16 MR. MOTLEY: Maybe it's on page 3,  
17 but does everyone see where I'm talking  
18 about here? "Discover." Yours were out of  
19 order.  
20 Q It says, "90 percent less secondhand smoke";  
21 correct?  
22 A It says that, yes. It says, "Almost 90  
23 percent less secondhand smoke."  
24 Q "Almost 90." "No ashes. No lingering  
25 odor."

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1 Are you familiar with the testimony in  
2 this case that Mildred Wiley had to change  
3 her clothes the minute she got home because  
4 of all the smoke smell?  
5 A I read that, yes.  
6 Q Well, here you're selling Eclipse so that  
7 people don't have to do that, don't you?  
8 A That is one of the -- that is one of the  
9 messages being portrayed here, yes, sir.  
10 Q "And practically no staining of walls,  
11 windows and curtains stay cleaner." You  
12 make that representation, doesn't your  
13 company?  
14 A That's what it says, yes, sir.  
15 Q Turn over now, please, if you don't mind, to  
16 the page that's got a picture of the sweater



17 on it. It says, "Discover the difference."  
18 I won't tell you what page it is because my  
19 pages aren't numbered. Do you have that?  
20 A Yes.  
21 Q The picture of the sweater on it? Does  
22 everybody have this page?  
23 It says, "After a few days, try wiping  
24 your TV or computer screen clear. You'll  
25 notice what a difference smoking Eclipse

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1 makes. After a few days you'll see that  
2 there is practically no smoke buildup with  
3 Eclipse."  
4 Now, what are we talking about here, no  
5 smoke buildup?  
6 A Well, that means that there would not be the  
7 smoke particles that would have been  
8 attracted to a TV screen. TV screen is  
9 actually a pretty good collector of smoke  
10 particles because of the electrostatic  
11 charge on it.  
12 Q You don't think human lungs are?  
13 A You're asking me questions about this  
14 product versus what exposure may have been.  
15 Now --  
16 Q Are you done?  
17 A And I'm trying to answer your questions in  
18 that context.  
19 Q Would you turn over, please, to the page  
20 that has the coffee cups in it and has -- it  
21 says, "My fiance is a nonsmoker." Do you  
22 see that, Dr. Ogden?  
23 MR. MOTLEY: Can you folks see  
24 this?  
25 A I do.

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1 Q Somebody from Indiana is quoted as saying  
2 there was just no smoke lingering in the  
3 air. It was just unbelievable. Does your  
4 company make that representation about  
5 Eclipse versus regular cigarettes?  
6 A Mr. Motley, I've not seen these before. If  
7 you represent that this is a published ad  
8 from the company, I would say, yes, that's  
9 what it says here.  
10 Q Don't you know that with every pack of  
11 Eclipse that people buy they get their own  
12 little home video? Have you seen that?  
13 A I have seen a video.  
14 Q Well, are the representations in that video  
15 to sell Eclipse fair and accurate  
16 scientifically?  
17 A It's been a number of years since I've seen  
18 that video, so I'm not sure I could  
19 characterize it that way or not. I  
20 certainly was not aware when I viewed it  
21 that there was anything that, in my  
22 research, would indicate that I would  
23 disagree with.  
24 Q So you believe that video fairly and  
25 accurately represents the scientific

1 difference between Eclipse and regular  
2 Camels, for example.  
3 A Without reviewing the video again, I'm not  
4 sure I could answer that question globally.  
5 MR. MOTLEY: Your Honor, we would  
6 move the admission of the video at this time  
7 to show the witness. I want to show it on  
8 the screen.  
9 THE COURT: Mr. Furr, have you had  
10 a chance to review this?  
11 MR. FURR: I would be happy to look  
12 at it over the break.  
13 THE COURT: How long is it?  
14 MR. MOTLEY: It's 15 minutes long.  
15 I can go to something else, wrap up one  
16 thing.  
17 THE COURT: He can review it over  
18 the break.  
19 Q Would you mind showing the next video clip,  
20 I believe it was the Odd Couple. I want to  
21 go back now to very small in the context of  
22 these movies. And ask you to look, or you  
23 can look at the big screen or your screen,  
24 whichever you prefer, sir.  
25 This is from the Odd Couple. Do you  
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1 see the fan in the background?  
2 Stop it, please.  
3 Now, sir, that was about a ten-second  
4 clip. You could see the smoke in the air,  
5 could you not?  
6 A I could see smoke coming off cigarettes,  
7 sure.  
8 Q No, no. I'm not talking about coming off  
9 cigarettes. Could you not see it forming  
10 part of the background?  
11 A No, I didn't see that. I'm sorry.  
12 Q Back up, please.  
13 Can you not see it in the background  
14 here, sir, the haze back there?  
15 A I can't really, no. I can see it right  
16 around the table.  
17 Q Okay. Go back to the first part of Odd  
18 Couple again, please. I'm going to freeze  
19 on something, and I'm going to ask you a  
20 question about it.  
21 Stop. Too late. Back up just a little  
22 bit. Back up about two seconds. I want to  
23 show. Right there, stop it. Okay.  
24 You saw the smoke that was coming off  
25 this man's cigarette. You still see some of  
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1 it; correct?  
2 A Correct.  
3 Q If someone were to be standing right over  
4 that person just like I'm doing right now,  
5 if you would see a hand right here holding  
6 that cigarette for that person, would you  
7 agree that that person located six to 12

8 inches away from the rod itself would be  
9 receiving significant undiluted sidestream  
10 smoke?  
11 A The position of a person close to that smoke  
12 plume, in general, they would have higher  
13 exposure than if they were further away.  
14 But as you can also see, the smoke is very  
15 concentrated in a plume, and that there  
16 would be areas of air around that that would  
17 be much less concentration.  
18 Q But if you were right there, hovering over  
19 somebody, just like this, helping them  
20 smoke, holding the cigarette for them, you  
21 would get higher concentrations than if you  
22 were 12 feet away?  
23 A In general, yes, that's true.  
24 Q Roll the next video, please.  
25 Have you ever seen this movie, Clean  
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1 and Sober? The man was nominated for an  
2 Academy Award for this.  
3 A No, sir, I'm afraid I haven't.  
4 Q This is an Alcoholics Anonymous movie. Can  
5 you see the haze in the background, sir?  
6 A I saw what looked like haze, yes, sir.  
7 Q He's saying thank you for not smoking?  
8 A I didn't see that.  
9 Q Well, we turned the sound down.  
10 Now, have you ever been in a measured  
11 room about this size right here, where you  
12 would have 10 or 12 people in there all  
13 smoking at the same time?  
14 A In what size, the whole size of this  
15 courtroom?  
16 Q Let's say from right there to where the  
17 Judge's bench is, this wide.  
18 A I probably have, yes, sir.  
19 Q And isn't it a fact, sir, that the exposures  
20 in the '50s, '60s, '70s and up through the  
21 early '80s, was much more intense, the  
22 environmental tobacco smoke, or secondhand  
23 smoke, was much more intense than the '90s?  
24 A I'm not sure I can testify to that in  
25 general. There certainly would be some  
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1 scenarios where there would be less  
2 ventilation, but that's -- I've been in  
3 rooms such as that where you can see smoke  
4 in the air, sure.  
5 Q Do you remember testifying before the  
6 Occupational Safety and Health  
7 Administration, sir?  
8 MR. FURR: What page?  
9 MR. MOTLEY: Page 11401.  
10 MR. FURR: 11401?  
11 MR. MOTLEY: Yes, sir. Show it,  
12 please.  
13 Q That is a copy of your testimony, is it not?  
14 A It appears to be, yes.  
15 Q "The typical smoking behavior in the public  
16 in the 1990s is much different than smoking

17 behavior when these measurements were taken  
18 in the late '70s and early '80s."  
19 Do you remember making that statement?  
20 MR. FURR: Excuse me. I don't mean  
21 to interrupt, but I don't have that on page  
22 11401. Are you certain that's the page?  
23 MR. MOTLEY: I've got a copy of it  
24 right here. I don't know why it's not on  
25 that page.

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1 Q Did you make such a statement, sir?  
2 A I vaguely recall that. This does look like  
3 a transcript of my testimony. That's what  
4 it says, yes.  
5 Q While measurements of the magnitude reported  
6 in these studies. Now you're referring to  
7 studies that were done, reporting smoke  
8 exposures in the '70s, late '70s and early  
9 '80s; right?  
10 A I need to be technically accurate with you.  
11 These are not what I would call exposure  
12 studies. This was a comment based on a few  
13 measurements made by one scientist in bingo  
14 halls and things like that, of  
15 concentration.  
16 Q Bingo halls where people, lots of people  
17 gather, right, and lots of people were  
18 smoking in the '70s; right?  
19 A I can't attest to what happened in that  
20 particular study.  
21 Q Well, you did here. You said measurements  
22 of the magnitude reported in those bingo  
23 studies are possible. They are far from  
24 being typical, at least in the '90s. Then  
25 you use these words. "These extreme values,

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1 in other words, the bingo hall studies in  
2 the '70s, need to be viewed in the context  
3 in which they were generated, and also  
4 compared to modern day, realistic RSP  
5 concentrations in workplaces with and  
6 without smokers."  
7 That was your testimony, was it not?  
8 A Yes, sir, it sure is.  
9 Q And the point you're making there is, that  
10 when you walk around with these things in  
11 the '90s, with less people smoking, with  
12 more smoking regulations, you are going to  
13 get less exposure concentrations than you  
14 would have gotten in the late '70s and early  
15 '80s; right?  
16 A No, that's not my testimony.  
17 Q That's not your testimony. So you're saying  
18 that back when people smoked more often,  
19 smoked in elevators, smoked in cars, smoked  
20 on airplanes, that the exposure would be the  
21 same as today when they can't do that; is  
22 that your testimony?  
23 A No, that's not -- you're asking me about  
24 this testimony here?  
25 Q I'm asking you a general question now.

1 A No. You've mischaracterized my testimony  
2 here.  
3 Q Were the levels that were reported at the  
4 bingo hall extreme values? Did you say that  
5 or not?  
6 A Sure.  
7 Q By extreme you meant high, didn't you?  
8 A Yes.  
9 Q All right. And isn't it a fact, sir, that  
10 back in the '60s and '70s more people  
11 smoked?  
12 A I've never studied that. That's -- I'm not  
13 sure that is true.  
14 Q You're not sure that's true?  
15 A No, I'm not.  
16 Q Do you know what percentage of the American  
17 public smokes today regularly, sir?  
18 A Not exactly. I could guess.  
19 Q Well, guess then.  
20 A I would say 20 to 25 percent.  
21 Q And don't you know that 50 percent of the  
22 American public smoked in the '60s?  
23 A But I also know the population has  
24 increased, so you're asking me about number  
25 of people, you didn't ask me about percent.

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1 Q So there's more people, and the fact that  
2 you only got 25 percent smoking, that's  
3 still the same number of smokers; is that  
4 your testimony?  
5 A I'm saying it's possible. I'm trying to  
6 answer the question you've asked me.  
7 Q All right. But won't you give me this, sir:  
8 That back in the '60s and '70s, people  
9 smoked on elevators sometimes; correct?  
10 A I don't know.  
11 Q You don't know?  
12 A No. I presume that happened, sure.  
13 Q What about airplanes? People smoked on  
14 airplanes back until the mid-'70s?  
15 A Sure.  
16 Q You've studied that, haven't you?  
17 A We have, yes.  
18 Q In fact, you and Dr. Jenkins followed one  
19 another, Jenkins first, you second, at the  
20 airline stewardesses' trial, didn't you?  
21 A I don't know if he was right before me or  
22 not, but he testified and I testified, yes.  
23 Q And you showed some of this equipment?  
24 A I did.  
25 Q In fact, you made basically the same

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1 presentation with these pictures and all  
2 these little things right here, didn't you?  
3 A Very similar, yes.  
4 Q So this ain't the first time you've told  
5 this story, gave this testimony?  
6 A In a courtroom? No. Second time.  
7 MR. MOTLEY: Your Honor, would this

8 be an appropriate time, sir?  
9 THE COURT: I think we will take a  
10 break, Counselor.  
11 We'll break for 15 minutes, ladies and  
12 gentlemen.  
13 MR. MOTLEY: Judge, it's going to  
14 take 15 minutes to do the film.  
15 THE COURT: We'll break for about  
16 20 minutes because he needs to review that  
17 film.  
18 (Standard admonition)  
19 MR. CASSELL: All rise.  
20 THE COURT: You can step down,  
21 Doctor. Thank you.  
22 (A brief recess was taken.)  
23 MR. CASSELL: All rise.  
24 THE COURT: Be seated. Thank you.  
25 All right. Jury is not present.  
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1 Mr. Furr, did you get an opportunity to  
2 review?  
3 MR. FURR: We did, Your Honor.  
4 Sorry it took so long.  
5 THE COURT: That's all right.  
6 MR. FURR: No one on this side of  
7 the room has any future as a technologist, I  
8 promise you. We did see it.  
9 THE COURT: All right. Do you  
10 intend, Mr. Motley, to show that to the  
11 witness?  
12 MR. MOTLEY: Yes, Your Honor.  
13 THE COURT: Do you intend to offer  
14 it into evidence?  
15 MR. MOTLEY: Yes, Your Honor.  
16 THE COURT: It is marked,  
17 Counselor? It will be 80. Plaintiffs' 80.  
18 Is there an objection, Mr. Furr?  
19 MR. FURR: We do not have an  
20 objection to the admission of the exhibit.  
21 Let me make sure I understand. Is the  
22 complete tape going to be shown to the  
23 witness? And we request, if he's going to  
24 be questioned about it, that it is, so that  
25 the statements contained in the tape can be  
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1 put into context.  
2 MR. MOTLEY: No problem.  
3 THE COURT: All right.  
4 MR. MOTLEY: Judge, I have one  
5 other. It's not related to that.  
6 THE COURT: Go ahead.  
7 MR. MOTLEY: Your Honor, I would  
8 like to file with the Court an order entered  
9 on Saturday in the State of Minnesota  
10 litigation depriving some 39,000  
11 documents on grounds of crime/fraud. I  
12 raise it at this point in time, Your Honor.  
13 There's an appeal that's been taken today to  
14 the Minnesota Court of Appeals. They were  
15 ordered over the weekend to file their  
16 papers by 4:30 today, with the State

17 responding by 4:30 tomorrow. The reason I  
18 bring it up to Your Honor is two-fold.

19 We, obviously, are not seeking 39,000  
20 documents in the middle of this trial.  
21 However, if those -- any of those 39,000  
22 documents deal with the subject matter of  
23 environmental tobacco smoke, and if that  
24 order is affirmed and those documents are  
25 released, we move now, before this Court,

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1 that any of those documents, once the Court  
2 of Appeals has ruled, if they affirm the  
3 trial court's ruling, that any of those  
4 documents that deal with the following two  
5 categories -- and Your Honor, we've talked  
6 about these orders before. They were  
7 required to categorize these. One of the  
8 categories is science. Another category  
9 deals with public health matters. I don't  
10 know exactly what the -- what the label of  
11 it is.

12 But to the extent that any of the  
13 documents relate to environmental tobacco  
14 smoke, secondhand smoke, sidestream smoke  
15 issues, and any of the documents relate to  
16 withholding scientific information from  
17 public health officials, we would like  
18 those, that discrete subset produced by  
19 these defendants to the extent, Your Honor,  
20 that the Court of Appeals affirms this  
21 ruling.

22 Obviously, some of them may bear on  
23 something -- some of them -- we haven't seen  
24 them, obviously. Neither has the State of  
25 Minnesota seen them. But some of them may

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1 bear on these very issues that we're  
2 litigating here today. And I know it's the  
3 11th hour, but we don't control when the  
4 Court makes these rulings, as Your Honor  
5 knows.

6 The Court's reviewed voluminous matters  
7 in regard to that case, and it may or may  
8 not be something that is relevant to this  
9 case, but if I didn't bring this to Your  
10 Honor's attention at the first possible  
11 moment, I think I would be remiss in giving  
12 Your Honor an opportunity to think about it.  
13 There may not be anything to think about.  
14 The Court of Appeals may decide on Wednesday  
15 to reverse.

16 THE COURT: All right. I'll show  
17 that preliminary discovery matter raised by  
18 Mr. Motley. The Court will take it under  
19 advisement until I hear further comment from  
20 Mr. Motley and from defense.

21 Are we ready to bring the jury in now?

22 MR. MOTLEY: Yes, Your Honor.

23 Your Honor, may I approach? This is  
24 the document we move the admission of. I  
25 want to give it to you before the jury comes

1 in.  
2 MR. CASSELL: All rise.  
3 THE COURT: Be seated. Jury is  
4 back together with all three alternates.  
5 Dr. Ogden here?  
6 MR. FURR: Yes, he is, Your Honor.  
7 THE COURT: State your name again  
8 for the record, please.  
9 THE WITNESS: Michael Wayne Ogden.  
10 THE COURT: Ladies and gentlemen,  
11 at the break there was an issue regarding a  
12 videotape. I have marked Plaintiffs'  
13 Exhibit 80, and the defense has had an  
14 opportunity to review that. They have no  
15 objections to its admission. I will order  
16 it admitted into evidence in this matter.  
17 (Plaintiffs' Exhibit(s) 80 received in  
18 evidence.)  
19 MR. MOTLEY: Before we show that,  
20 Your Honor, may I ask a few foundational  
21 questions?  
22 THE COURT: You may.  
23 BY MR. MOTLEY:  
24 Q Dr. Ogden, isn't it a fact, to your personal  
25 knowledge, that neither Premier nor Eclipse

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1 was ever offered for sale in the Muncie,  
2 Indiana area?  
3 A My understanding is that that's true for  
4 Eclipse. I'm not sure about Premier.  
5 Q Eclipse -- the film that we're about to see  
6 was about Eclipse. That was never offered  
7 for sale here; is that correct?  
8 A As far as I know, that's true.  
9 Q And are you familiar with this release by RJ  
10 Reynolds in 1987? You were with the company  
11 then; correct?  
12 A 1987, yes.  
13 Q This was a release that was put out with  
14 respect to Premier. Are you familiar with  
15 that?  
16 A No, I'm not.  
17 Q You know that publicity was had about  
18 Premier cigarettes; correct?  
19 A Sure.

20 MR. MOTLEY: Your Honor, we move  
21 the admission of the next number of this  
22 release.

23 THE COURT: It will be 81. Any  
24 objection, Mr. Furr?

25 MR. FURR: I just got it. I'm

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1 looking at it, Your Honor. It's several  
2 pages. I'll look at it as quickly as I can.  
3 No objection.  
4 THE COURT: 81 will be admitted.  
5 (Plaintiffs' Exhibit(s) 81 received in  
6 evidence.)  
7 BY MR. MOTLEY:



8 Q Dr. Ogden, would you kindly look at page 2  
9 of the document.  
10 A All right.  
11 Q This was about Premier; correct?  
12 A Well, I haven't read it. Do you want me to  
13 read the whole thing?  
14 Q You do know that Premier was announced in  
15 1987; correct?  
16 A About that time frame. I don't know exactly  
17 when.  
18 Q Okay. On page 2, it says, "The cigarette is  
19 based on new technology that heats rather  
20 than burns tobacco to provide smokers with  
21 tobacco taste and satisfaction Premier looks  
22 like and smokes like other cigarettes --" on  
23 page 1, I'm sorry -- "but produces no ash  
24 Premier virtually no sidestream smoke after  
25 the first few puffs." On page 1.

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1 So does that sound like Premier to you?  
2 A It sounds like Premier, yes, sir.  
3 Q Okay. On page 2. "'Since the tobacco does  
4 not burn, a majority of the compounds  
5 produced by burning tobacco are eliminated  
6 or greatly reduced, including most compounds  
7 that are often associated with the smoking  
8 and health controversy,' said Edward A.  
9 Horrigan, Vice Chairman of RJR Nabisco and  
10 Chief Executive Officer of RJ Reynolds  
11 Tobacco Company."  
12 Did I Premier correctly?  
13 A Yes, sir.  
14 Q In fact, sir, when you tested Premier, you  
15 found that the so-called biological activity  
16 in sidestream and mainstream smoke was  
17 markedly reduced; correct?  
18 A That was one of the design attributes and  
19 that was one of the findings, yes.  
20 Q And then the chairman says, "Simply put, we  
21 think this, Premier, will be the world's  
22 cleanest cigarette," didn't they?  
23 A That's what this says, yes.  
24 Q Does that mean Camels and Winstons that you  
25 currently sell are dirty?

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1 A That's not a characterization I would make,  
2 but that says cleanest.  
3 Q Well, are Camels and Winstons that were sold  
4 in the '70s and '80s safe for human use?  
5 A That's not a question I can answer as a  
6 chemist; I don't know.  
7 Q You don't know whether they're safe for  
8 human use?  
9 A That's not a question I've ever studied.  
10 Q Let me ask you this: Do they contain  
11 chemicals that are carcinogens, the smoke of  
12 Camels and Winstons that were sold in the  
13 '70s and '80s?  
14 A When you say "carcinogen"?  
15 Q Things that cause cancer in animals?  
16 A Sure. Carcinogenicity means -- is not an

17 inherent property of a chemical. If you  
18 mean are there any chemicals in there that  
19 caused any tumor in any laboratory animal at  
20 any concentration by Premier of  
21 administration, the answer is yes.

22 MR. MOTLEY: Okay. Your Honor, I'd  
23 now show the container that the promotional  
24 film comes in first, and then we'll show the  
25 film.

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1 THE COURT: All right.

2 Q Can you see that, Doctor?

3 MR. MOTLEY: And folks, can you see  
4 that?

5 Q It says that the cigarette, when smoked, it  
6 disappears like this. Do you see that?

7 A I do, yes.

8 Q Does that mean that regular Camels' and  
9 Winstons' smoke doesn't disappear like that?

10 A That would be the implication from the ad,  
11 yes.

12 MR. MOTLEY: Will you show the  
13 film, please.

14 (Videotape shown)

15 BY MR. MOTLEY:

16 Q Dr. Ogden, does RJ Reynolds agree with the  
17 Surgeon General's warning that you just  
18 showed in that film you produced?

19 A RJ Reynolds complies with all laws that  
20 require the label.

21 Q No, sir. I asked you --

22 MR. MOTLEY: Can you show that,  
23 please, the last Surgeon General's warning,  
24 what was last seen. Right there.

25 Q "Surgeon General's warning: Smoking causes

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1 lung cancer."

2 Does RJ Reynolds agree with that  
3 statement of the Surgeon General?

4 A As it's worded, I would say no.

5 Q Heart disease?

6 A Well, the only word that I think I would  
7 disagree with as a scientist and the company  
8 would agree with would be cause.

9 Q The word "cause"?

10 A If you would replace that with risk factor,  
11 and I think we would be okay.

12 Q Thank you.

13 MR. MOTLEY: Would you take that  
14 down, please.

15 Q Has Reynolds ever done a film like this  
16 15-minute film we just saw educating  
17 children in America about the hazards of  
18 smoking cigarettes?

19 A I don't know.

20 Q Did you see the comment by one of the  
21 Premier smokers that it's great because we  
22 don't have to paint the walls every year  
23 because they're getting yellow? Did you see  
24 that?

25 A I saw that, yes.

- 1 Q Is that true? Is it true that Premier  
2 prevents people from having to paint the  
3 walls from nicotine buildup?  
4 A I don't know that. I've known a lot of  
5 smokers who don't repaint their house every  
6 year. There may be some that do. I can't  
7 attest to that.  
8 Q Well, Reynolds thought enough of that to put  
9 it in the tape, didn't they?  
10 A You have to understand, this is an  
11 advertisement. This is a product that's  
12 developed and is advertised to address  
13 wishes and wants of customers of a consumer  
14 product company. That, obviously, is a wish  
15 or want of that customer.  
16 Q Well, you thought enough of that customer's  
17 comment about not having to paint their  
18 house from the nicotine stains to put it in  
19 that 15-minute promotional film, didn't you,  
20 your company?  
21 A It's in there, so yes, they did think highly  
22 of it. I assume that means that there were  
23 other smokers that shared that desire in a  
24 cigarette development.  
25 Q Now, the film was made in 1995. You

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- 1 understand Mrs. Wiley died in 1991.  
2 A That's my understanding, yes.  
3 Q Are you aware, sir, that in 19 -- way back  
4 in 1976, RJ Reynolds was studying the  
5 Premier product -- the Premier product,  
6 products that would heat rather than burn  
7 tobacco?  
8 A I don't know when it started. I wasn't with  
9 the company at that time, so I don't know  
10 what they might have been doing in product  
11 development in 1976.  
12 Q Well, but you told the jury that when you  
13 got to the company, you went back and  
14 reviewed historical files, and indeed you  
15 testified about things in the early '80s  
16 here this morning, didn't you?  
17 A About ETS, not about product development.  
18 Q Well, wouldn't the creation of a cigarette  
19 that heats rather than burns cut down on  
20 sidestream smoke?  
21 A It does, yes. We've shown that.  
22 Q So that's an aspect of ETS, isn't it? You  
23 told us that part of ETS is sidestream  
24 smoke?  
25 A Well, when I joined the company, I was

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- 1 certainly aware that product development was  
2 going on for what became known as Premier.  
3 I knew that it had been going on for some  
4 time. You asked me if I knew it was in  
5 1976, and my answer was simply no, I don't  
6 know when it was.  
7 Q First of all, this is a document 26414

8 that's in evidence, sir. Would you confirm  
9 that this is an RJ Reynolds document that's  
10 dated 1976 and discusses heating tobacco  
11 rather than burning it?  
12 A Yes, it appears to be an RJR document and  
13 it's dated March 5, 1976.  
14 MR. MOTLEY: Your Honor, Exhibit  
15 26 --  
16 Q Are you familiar with Exhibit 14398 that's  
17 in evidence, Dr. Ogden?  
18 A No, I'm not.  
19 MR. MOTLEY: Your Honor, this is  
20 already in evidence, but I want to ask the  
21 witness about it, if I may.  
22 THE COURT: All right.  
23 MR. FURR: What number is that?  
24 MR. MOTLEY: 14398. Do you need me  
25 to get you a copy of it?  
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7051

1 MR. FURR: I've got a copy.  
2 Q Do you have a copy up there, Doctor?  
3 A 14398?  
4 Q Yes.  
5 A Yes.  
6 Q You know who Alan Rodgman was at the time?  
7 You've known him, haven't you?  
8 A Yes, I know who he is.  
9 Q He's a senior scientist with RJ Reynolds?  
10 A He's retired now but, yes, he was a senior  
11 scientist.  
12 Q Are you aware that he reported to senior  
13 management, this Dr. Rodgman, who wrote this  
14 document in 1976, 14 years earlier, in 1962  
15 Dr. Rodgman told senior management of RJ  
16 Reynolds that the evidence to indict  
17 cigarette smoking as a cause of lung cancer  
18 was overwhelming. Are you aware of that?  
19 A I'm not aware of that, no.  
20 Q Now, would you kindly tell the ladies and  
21 gentlemen of the jury what hydrogen cyanide  
22 is?  
23 A It's a chemical.  
24 Q What does it do to you?  
25 A At high concentrations, it's generally

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7052

1 perceived to be a poison.  
2 Q Well, it's more than a poison, isn't it?  
3 Don't they use that for executions?  
4 A They do, right.  
5 Q Hydrogen cyanide? Sir?  
6 A They do, yes.  
7 Q So in gas chambers they use hydrogen  
8 cyanide, don't they, some of them?  
9 A Yes.  
10 Q Look at page 21, please, ladies and  
11 gentlemen, and Doctor.  
12 Down at the bottom under C, do you see  
13 a discussion of hydrogen cyanide?  
14 A Yes, I do.  
15 Q And then do you see a discussion of a TLV?  
16 A Uh-hum.

17 Q Tell the ladies and gentlemen of the jury  
18 what a TLV was. I think we call them PELs  
19 now, but what a TLV was.  
20 A I'm sorry. What it was?  
21 Q What is a TLV?  
22 A Okay. TLV is a regulatory term that's  
23 basically used to establish what the  
24 permissible exposure would be in an  
25 occupational setting. For example, as I

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1 interpret this, this is probably an OSHA  
2 standard that says a worker could be exposed  
3 to 10 PPMs hydrogen cyanide all day every  
4 day for eight hours.  
5 Q Okay. And then it says mainstream smoke  
6 from an average cigarette contains from 200  
7 to 400, what's that term that's used there?  
8 A I'm sorry, where are you reading?  
9 Q The next paragraph. Page 22, the second  
10 paragraph.  
11 A Uh-hum.  
12 Q "The mainstream smoke from an average  
13 cigarette contains from 200 to 400," then  
14 what's that little term mean?  
15 A Micrograms.  
16 Q "Of hydrogen cyanide."  
17 A Right.  
18 Q "If a ten-puff cigarette is assumed with 35  
19 milliliters of puff, then the hydrogen  
20 cyanide concentration per milliliter is 570  
21 to 1,140 NGs" -- is what again now?  
22 A NG is nanograms.  
23 Q Okay. So he is saying that mainstream smoke  
24 contains hydrogen cyanide; correct?  
25 A Sure, yes.

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1 Q And then he says "Sidestream smoke contains  
2 even higher levels per cigarette"; correct?  
3 A Right.  
4 Q Then down at the bottom under hydrogen  
5 sulfide -- what is hydrogen sulfide?  
6 A Again, it's just a chemical. I'm not sure  
7 what it's used for.  
8 Q It says, "The public generally identifies  
9 hydrogen sulfide with the odor of rotten  
10 eggs."  
11 A Right.  
12 Q "Most don't realize," that means the public  
13 doesn't realize; right? Is that correct,  
14 most don't realize.  
15 A It says most, I don't know what he meant by  
16 that.  
17 Q "That the toxicity of hydrogen sulfide as in  
18 its TLV is the same 10 parts per million as  
19 hydrogen cyanide. 10 parts per million of  
20 hydrogen sulfide is about 14 nanograms per  
21 milliliter. Its level in cigarette  
22 mainstream smoke is slightly less than that  
23 of hydrogen cyanide. If a ten-puff  
24 cigarette is assumed with 35 milliliters  
25 puffed, then the hydrogen sulfide is 140 to

- 1 280 nanograms per milliliter, the levels in  
2 sidestream smoke are also higher than those  
3 in mainstream smoke." I read that  
4 correctly; right?
- 5 A You did, yes.
- 6 Q Is that information that you were aware of?
- 7 A In general, yes, but not those exact  
8 numbers.
- 9 Q And, again, going back to someone standing  
10 right -- right there, six inches from the  
11 face of a smoker holding the smoke --  
12 holding the cigarette, the hydrogen cyanide  
13 and hydrogen sulfide that such a person  
14 would get would be greater than if they were  
15 as far away as you are from this  
16 hypothetical cigarette being smoked;  
17 correct?
- 18 A I lost you in the question. Sorry. Ask me  
19 it again. I lost track of where you were  
20 going.
- 21 Q I've got a person standing over a human  
22 being, okay, holding the cigarette for them,  
23 okay. All right? You're aware that  
24 testimony in this case is that Mildred Wiley  
25 from time to time had to smoke patients;

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- 1 right?
- 2 MR. OHLEMEYER: Your Honor, I  
3 object to that. I'm not sure that is the  
4 testimony. That's Mr. Motley's  
5 characterization.
- 6 MR. MOTLEY: It's in evidence, and  
7 I'll be glad to show it to you chapter and  
8 verse.
- 9 MR. OHLEMEYER: I think it's  
10 argumentative. It's something the jury will  
11 have to decide.
- 12 THE COURT: Overruled. Go ahead.
- 13 MR. MOTLEY: I'll be happy to get  
14 chapter and verse. You just assume for a  
15 second. I'll have Mr. Howard find the  
16 testimony.
- 17 A You asked me a question. You want me to  
18 answer your question?
- 19 Q Let me start over again. That Mildred Wiley  
20 from time to time was holding a cigarette  
21 for a patient, okay, who was smoking?
- 22 A That is your representation?
- 23 Q I'm representing that, okay?
- 24 A Okay.
- 25 Q And that the person would smoke and smoke

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- 1 would come out, and her face was within 12  
2 inches, let's say, okay?
- 3 A That's your hypothetical, sure.
- 4 Q That smoke would have more hydrogen cyanide  
5 and more hydrogen sulfide in it than what  
6 you would breathe over there; right?
- 7 A Sure. That's generally the way exposure

8 assessment and phenomenon work, yes. But  
9 that in no way relates to the question you  
10 were asking me previously. Was there a  
11 connection there I missed?  
12 Q Now, are you, sir -- would you look on page  
13 26 of that document that we've been talking  
14 about.  
15 A Okay.  
16 Q Do you see the second paragraph about Freon?  
17 A In the top section?  
18 Q Page 26, yes, sir.  
19 A Uh-hum.  
20 Q What is Freon 11?  
21 A It's -- well, it's generally classified as a  
22 chlorofluorohydrocarbon. Freon are a class  
23 of compounds that are used in air  
24 conditioning systems, for example. I don't  
25 think this particular one is but --

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7058

1 Q "Only the RJR product contains a non-tobacco  
2 component, Freon 11, after processing. In  
3 the future, our use of Freon 11 and its  
4 residual level in tobacco may be attacked on  
5 the basis of health." What does that mean?  
6 A I can read it just as you can. I'm not  
7 sure -- you're asking me to interpret what  
8 Dr. Rodgman meant 22 years ago?  
9 Q I'm asking you whether RJ Reynolds' use of  
10 freon was ever attacked because of health  
11 consequences.  
12 A I don't know.

13 MR. MOTLEY: Your Honor, we move  
14 the admission of Plaintiffs' Exhibit 82  
15 against Reynolds at this time.

16 MR. CASSELL: The video was 80 and  
17 this is 82.

18 THE COURT: 82? Any objection,  
19 Mr. Furr?

20 MR. FURR: There is no foundation  
21 for the document yet. No foundation for its  
22 admission.

23 MR. MOTLEY: It's produced from RJ  
24 Reynolds' files, Your Honor. It's authored  
25 by Mr. Rodgman. I don't think there is any

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1 question about its authenticity.

2 MR. FURR: I'm not arguing its  
3 authenticity.

4 MR. MOTLEY: It goes to  
5 environmental tobacco smoke right in the  
6 middle of it and I want to ask him about it.

7 THE COURT: Ask him about Rodgman.  
8 82 will be admitted.

9 (Plaintiffs' Exhibit(s) 82 received in  
10 evidence.)

11 Q Now, sir, do you see that this -- oops.

12 MR. FURR: Your Honor, now that  
13 I've looked at it, it's an incomplete  
14 document also. There's a reference to an  
15 attachment that I wasn't provided, anyway.

16 MR. MOTLEY: Well, Your Honor, we

17 can only give them what they produce to us.  
18 THE COURT: Noted and overruled.  
19 Go ahead, Counselor.  
20 Q Sir, you spent a lot of time this morning  
21 talking about environmental tobacco smoke,  
22 smoke, and different factors that go into  
23 the equation of measuring exposure, didn't  
24 you?  
25 A I did, yes.

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1 Q Isn't it true that RJ Reynolds knew that the  
2 safety factor from environmental smoke  
3 exposure can be manipulated by appropriate  
4 selection of the room size?  
5 A Are you asking me what this document says?  
6 Q I'm asking you if RJ Reynolds knew that.  
7 Did you know that you could manipulate your  
8 measurements by the room size?  
9 A Room size is an important factor in  
10 determining exposure. For example, if I  
11 smoke one cigarette in a small room versus  
12 one cigarette in a large room.  
13 Q Right. And if you smoked 15 cigarettes in a  
14 small room, 15 different people smoking  
15 cigarettes in a small room, that's more  
16 significant than one person smoking in a  
17 room of about the size from this lady to  
18 that lady, isn't it?  
19 A Maybe in general, but that's a little far  
20 stretch. You have to assume other things.  
21 Q Who is Gray Robertson?  
22 A Last I heard of Mr. Robertson, he was  
23 president of a consulting firm that made  
24 building investigations, indoor air quality  
25 investigations.

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1 Q For who? What was the name of his  
2 companies? HBI?  
3 A Healthy Buildings International, right.  
4 Q Was that not a front group of RJ Reynolds  
5 and the Tobacco Institute, sir?  
6 MR. WAGNER: Objection, your Honor,  
7 argumentative.  
8 THE COURT: Sustained. Rephrase  
9 that.  
10 Q Well, didn't the Tobacco Institute and RJ  
11 Reynolds, through the Tobacco Institute,  
12 control the activities of Gray Robertson?  
13 A I have no knowledge of that.  
14 Q Well, did Gray Robertson phony up data by  
15 manipulating the size of the rooms where he  
16 took exposure information?  
17 MR. WAGNER: Objection, Your Honor,  
18 to this prejudicial characterization of  
19 testimony from somebody else outside this  
20 courtroom that this witness doesn't know  
21 anything about. I object to Mr. Motley's  
22 continued argumentative characterizations.  
23 THE COURT: Do you want to rephrase  
24 the last.  
25 MR. MOTLEY: All right.



- 1 Q Are you aware, sir, that the Tobacco  
2 Institute used Gray Robertson as a star  
3 witness to testify about exposure  
4 measurements?  
5 A I know that Mr. Robertson has testified and  
6 made scientific presentations. I don't know  
7 under whose request he made those  
8 presentations, no.  
9 Q Don't you know that the Tobacco Institute  
10 privately admitted that Gray Robertson was  
11 not a scientist but he made a good witness?  
12 MR. OHLEMEYER: Your Honor, I  
13 object to this. This is not argument. You  
14 can't ask a witness don't you know something  
15 when he doesn't know.  
16 THE COURT: Sustained to the last.  
17 Sustained to the last.  
18 MR. MOTLEY: Your Honor, I'm doing  
19 the foundation, whether he's seen these  
20 documents.  
21 MR. WAGNER: Then he should proceed  
22 with foundational questions, Your Honor.  
23 THE COURT: You can do your  
24 foundation, but sustained to the last.  
25 Q Well, you told us you've looked at documents

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- 1 related to environmental tobacco smoke that  
2 predated and postdated your being with the  
3 company; correct?  
4 A That's correct.  
5 Q Did you look at the file on Gray Robertson  
6 and Healthy Buildings International,  
7 including the report of Congress about his  
8 conduct?  
9 MR. OHLEMEYER: Well --  
10 MR. WAGNER: Judge, you know, the  
11 question should be --  
12 THE COURT: He can answer that.  
13 That's a fair question.  
14 MR. WAGNER: It presupposes there  
15 was a file.  
16 THE COURT: I ruled on it.  
17 MR. WAGNER: Sorry, Your Honor.  
18 THE COURT: Go ahead.  
19 A I don't know what file you're speaking of.  
20 If there were scientific measurements made  
21 by Mr. Robertson and his firm -- and I have  
22 reviewed those published documents and  
23 others -- I don't know what the file that  
24 you're speaking of is.  
25 Q Well, you have, in fact, reviewed

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- 1 Mr. Robertson's exposure data, haven't you?  
2 A On occasion I've read papers published by  
3 scientists that work for him. I've heard  
4 him speak at least once at a scientific  
5 conference.  
6 Q Well, let me ask you this, sir:  
7 Mr. Robertson underwent media training,

8 didn't he, so he would be a better witness?  
9 MR. WAGNER: Judge, this is clearly  
10 outside the scope of direct examination.  
11 MR. MOTLEY: No, it's not. It goes  
12 to bias, prejudice.  
13 THE COURT: I'll overrule that.  
14 If you know.  
15 A I have no idea.  
16 Q You did, didn't you?  
17 A Sorry. What was the question?  
18 Q Did you have media training about how to  
19 make presentations to lay people?  
20 A I have had media training a time or two,  
21 yes, sir, when I was expected to speak with  
22 the media.  
23 Q Well, you had media training about how to  
24 present evidence to, like the OSHA hearings,  
25 didn't you?

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1 A I'm not sure when it was. There was some --  
2 certainly we held practice sessions among  
3 scientists and listened to each other's  
4 presentations and critiqued those, yes.  
5 Q And --  
6 MR. MOTLEY: Excuse me one second,  
7 Your Honor. While they're looking at that,  
8 Your Honor, I'm going to come back to a  
9 question I asked him.  
10 Q Sir, do you remember when I asked you the  
11 question -- this is -- while they're looking  
12 at that document -- this is the question  
13 about Millie Wiley smoking the patient. Do  
14 you remember I asked you that question?  
15 A Yes, I do.  
16 Q Let me show you the testimony in this trial.  
17 MR. FURR: Your Honor, I object to  
18 the form of this.  
19 MR. OHLEMEYER: May we approach for  
20 a moment, Your Honor?  
21 (Bench discussion)  
22 BY MR. MOTLEY:  
23 Q Dr. Ogden, before I come to that document,  
24 do you remember I asked you the question  
25 about Mildred Wiley smoking the patients?

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1 A I remember that question, yes.  
2 Q This is from the testimony in this Court of  
3 Betty Jeffries before this jury. "I think  
4 you just told the jury that Mildred Wiley  
5 would smoke the patients. Why would you  
6 remember that?  
7 "Answer: Well, I made the remark one  
8 time that that was probably the only time --  
9 we always called her Millie -- the only time  
10 that Millie ever held a cigarette in her  
11 hand was when she was smoking the patients."  
12 Now, does that refresh your memory,  
13 sir, of the affidavits and depositions you  
14 saw before you came in the courtroom that,  
15 in fact, there was testimony that Mildred  
16 Wiley smoked the patients?

17 A Actually, I would say that's contrary to the  
18 depositions and affidavits I read from her  
19 co-workers that indicated she had not done  
20 that.

21 Q Let me ask you this: Do you see this page  
22 right there, highlighted right there?

23 MR. WAGNER: Judge, I'm going to  
24 object, because isn't that the transcript  
25 and the testimony in this case?

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1 MR. MOTLEY: It is.

2 MR. WAGNER: Well, then, it's not  
3 relevant to anything that --

4 MR. FURR: I didn't ask him about  
5 that.

6 THE COURT: That issue, Counselor,  
7 whether or not he's seen that particular  
8 page is not really relevant.

9 MR. MOTLEY: All right.

10 Q Now, if we could go to the document.

11 MR. MOTLEY: Your Honor, we move  
12 the admission against Brown & Williamson at  
13 this time of Exhibit 9829.

14 THE COURT: Any objection,  
15 Counselor? Mr. Ohlemeyer?

16 MR. OHLEMEYER: Yes, Your Honor.  
17 No foundation for its use with this witness.  
18 It appears to discuss a meeting that didn't  
19 involve this witness.

20 MR. MOTLEY: Your Honor, this --  
21 first place, they told us that this witness  
22 was here for all of the defendants, if you  
23 recall.

24 THE COURT: I recall.

25 MR. MOTLEY: And secondly, Your

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1 Honor, they testified that this document  
2 relates to a meeting in which RJ Reynolds is  
3 discussed, it relates to the man that I just  
4 was asking him about, Mr. Gray Robertson,  
5 and it quotes from a statement made by RJ  
6 Reynolds with respect to Mr. Robertson, and  
7 this gentleman just said that he knew  
8 Mr. Robertson, that he relied on  
9 Mr. Robertson's data. That's a foundation  
10 for this document.

11 MR. OHLEMEYER: Your Honor --

12 MR. WAGNER: He didn't say that.

13 MR. OHLEMEYER: Your Honor, if I  
14 may.

15 THE COURT: Go ahead.

16 MR. OHLEMEYER: As a matter of  
17 procedure, the defendants who have been sued  
18 in this case aren't going to bring six  
19 witnesses to say the same thing. The fact  
20 that this man works at RJ Reynolds and has  
21 testimony that may be relevant to the issues  
22 the jury has to decide doesn't make every  
23 document admissible on his examination  
24 against any other company.

25 THE COURT: I generally agree with

1 that.

2 MR. OHLEMEYER: This is not a  
3 matter that Mr. Motley has laid any  
4 foundation that this witness has any  
5 personal knowledge.

6 THE COURT: I disagree with that.  
7 9829 will be admitted.

8 (Plaintiffs' Exhibit(s) 9829 received  
9 in evidence.)

10 MR. MOTLEY: I gave you a copy of  
11 that, didn't I?

12 MR. OHLEMEYER: Can we approach for  
13 a moment?

14 THE COURT: All right.  
15 (Bench discussion)

16 THE COURT: 9829 is admitted and  
17 will be passed to the jury.

18 BY MR. MOTLEY:

19 Q Dr. Ogden, would you kindly look at the  
20 first page of these notes. Down at the  
21 bottom, the last two sentences, do you see  
22 mentioned -- and I know it's hard to read,  
23 but bear with me -- down at the very last  
24 two sentences, "The CIAR," do you see that,  
25 "noted that the CIAR --" are you on Bates

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1 No. 42342, sir? Let me help you.

2 A I'm not sure what I'm looking at here. I'm  
3 having a tough time reading this.

4 Q I understand. This is not in evidence, so  
5 I'll show you right there, okay.

6 A I see CIAR, yes.

7 Q That's the Center for Indoor Air Research;  
8 correct?

9 A That's correct.

10 Q You are familiar with them; right?

11 A I am.

12 Q And it's funded by cigarette companies,  
13 including RJ Reynolds; correct?

14 A There are a number of corporate sponsors,  
15 many of which or many or most of which are  
16 cigarette companies.

17 Q How about all of which?

18 A I'm not sure.

19 Q You're not sure?

20 A No.

21 Q "The aim would apparently be to keep the  
22 unit quite separate from the Tobacco  
23 Institute and, therefore, give it more  
24 scientific credibility." Do you see that?

25 A I do see that, yes.

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1 Q And, in fact, this 16 City study that you  
2 talked about and Dr. Jenkins, who was here  
3 last week discussed, was funded by the CIAR;  
4 correct?

5 A Yes, it was.

6 Q And the chairman of the CIAR was a scientist  
7 from Philip Morris, Dr. Thomas Osdene;

8 right?  
9 A Chairman of CIAR?  
10 Q Yes.  
11 A The executive director was not. I'm not  
12 sure who the chairman. Executive director  
13 is Dr. Max Isenberg.  
14 Q The CIAR funded the 16 City study; right?  
15 A Yes, they did.  
16 Q The 16 City study was RJ Reynolds or maybe  
17 even your idea, wasn't it?  
18 A I would characterize the inception of the  
19 idea as largely mine, yes.  
20 Q So RJ Reynolds conceived of it, the CIAR,  
21 which is supported by industry, funded it,  
22 and Dr. Jenkins was selected to do the  
23 design of it, and RJ Reynolds evaluated the  
24 data; right?  
25 A No, that's not true.

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1 Q Did RJ Reynolds participate at all in the 16  
2 City study?  
3 A Yes, we did. And I don't see anything wrong  
4 with that. When you ask scientists to  
5 conceive ideas for study, who better to ask  
6 than the people who have done the most  
7 research in the field.  
8 Q In that regard, sir, these things that you  
9 brought in here today, tell the ladies and  
10 gentlemen of the jury whether RJ Reynolds  
11 measured any environmental tobacco smoke in  
12 the 1960s.  
13 A Not to my knowledge.  
14 Q 1970s?  
15 A We attempted to.  
16 Q You did?  
17 A Yes.  
18 Q And do you have that data with you?  
19 A There were no data that -- I mean, there is  
20 no report, formal reports that I'm aware of,  
21 because largely what we were trying to do  
22 was to use sampling equipment that people  
23 had developed for other purposes and, by and  
24 large, when you take those, at that point  
25 when you took them into restaurants and

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1 whatnot you couldn't get any measurable  
2 results, it was too low to measure.  
3 Q So in the 1970s, RJ Reynolds was concerned  
4 about secondhand smoke enough to try to  
5 measure it; is that right?  
6 A Well, as I testified earlier, yes, we were  
7 aware of allegations, we were very  
8 knowledgeable about tobacco smoke and we  
9 wanted to apply our knowledge to ETS.  
10 Q Did RJ Reynolds take any of these  
11 instruments into a hospital, into a smoke  
12 room in a hospital, before 1980?  
13 A Not to my knowledge.  
14 Q All right. So now, Reynolds, you, come up  
15 with the idea, you hire Dr. Jenkins from Oak  
16 Ridge National Laboratory; right?

17 A Well, I may object to the way you're  
18 characterizing this. We just didn't come up  
19 with an idea. This was a result of a study  
20 that we had just completed, which itself was  
21 a result of -- followed from several studies  
22 we had completed, so it seemed like the next  
23 logical step in trying to understand what  
24 typical exposures were in the U.S.

25 Q Okay. The fact of the matter is you hired  
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1 Dr. Jenkins.  
2 A I wouldn't characterize it that way either.  
3 Q Well, Dr. Jenkins' firm was retained as  
4 principal designer of the study; right?  
5 A Sure. The way that it evolved was here's  
6 the magnitude of a study we're envisioning.  
7 Who has the resources and the scientific  
8 ability to carry out such a study? And  
9 Dr. Jenkins' name was on a very short list.  
10 Q Lo and behold, you went to Dr. Jenkins whose  
11 company had gotten millions of dollars from  
12 the cigarette industry prior to Premier;  
13 correct?  
14 A I can't testify to how many dollars  
15 Dr. Jenkins or Oak Ridge National Lab may  
16 have received.  
17 Q And then Dr. Jenkins decided to use -- and  
18 I'm not asking you whether this was  
19 appropriate or inappropriate, I'm just  
20 asking you if this, in fact, happened.  
21 Dr. Jenkins then asked the Reynolds  
22 laboratory to do certain assessments;  
23 correct? Data assessments?

24 A No, that's not correct.  
25 Q Well, did RJ Reynolds participate in the  
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1 study or not?  
2 A Yes, clearly. And I've described to you our  
3 participation, but that did not involve data  
4 assessment.  
5 Q All right. Well, let's get back to the  
6 document in question, sir, please, the  
7 effort here to keep the unit quite separate  
8 from the Tobacco Institute, therefore give  
9 it scientific credibility. Now, turn over  
10 to page -- the next page, if you don't mind,  
11 please, sir.  
12 A Excuse me. Does this document have a date?  
13 I'm searching to try to put it in context.  
14 I'm not finding --  
15 Q Yes. 1988. It says the -- item No. 6,  
16 folks, on the second page. "The public  
17 relations committee at TAC have apparently  
18 been collaborating with Gray Robertson of  
19 ACVA."

20 You know that ACVA was the name that  
21 the Healthy Buildings International went  
22 under when it first started; right?  
23 A I know they went under that name for a  
24 period of time. I don't know if that's the  
25 first --

1 Q The same Gray Robertson, though; right?  
2 A Sure, yes.  
3 Q "Who has been used as a spokesman/expert  
4 witness by the United States tobacco  
5 industry." Do you see that?  
6 A Uh-hum. Yes, I do.  
7 Q And, in fact, Mr. Robertson -- he wasn't a  
8 doctor -- went all around the United States  
9 testifying for the tobacco companies that  
10 environmental tobacco smoke wasn't a  
11 problem; right?  
12 A I don't have knowledge of that.  
13 Q Well, it says, RJR. That's Reynolds, right?  
14 A Yes.  
15 Q Pointed out that although the abilities of  
16 Gray Robertson as a presenter, i.e., a  
17 witness; right?  
18 A It says presenter here.  
19 Q Well, what do you think he was presenting if  
20 he wasn't presenting evidence?  
21 A Well, the first time I saw Mr. Robertson was  
22 at a scientific conference, and he made a  
23 scientific presentation. That wouldn't be a  
24 witness offering evidence, the way I would  
25 use the words.

1 Q Well, a presenter then, "are undeniable.  
2 This is not the case for his scientific  
3 abilities."  
4 Do you see that?  
5 A I do.  
6 Q In other words, if the minutes of this  
7 meeting are correct, RJ Reynolds knew that  
8 Gray Robertson made a really good  
9 presentation but he wasn't much of a  
10 scientist; right?  
11 A Those are your words, Mr. Motley. I don't  
12 see those here, and I can't say whether  
13 that's a view somebody held or not.  
14 Q It says his abilities are undeniable as a  
15 presenter; right?  
16 A That's what it says.  
17 Q But the same can't be said of his abilities  
18 as a scientist. Isn't that what it says?  
19 A I can say that about many people I met in  
20 science.  
21 Q What, that they're not much of a scientist  
22 but they make a good witness?  
23 A That's not what I said. You said  
24 "presenter." I used "presenter" in terms of  
25 the scientific context.

1 Q Well, Reynolds is using, through the Tobacco  
2 Institute, Gray Robertson to go around the  
3 country and make presentations about  
4 environmental tobacco smoke in the '80s;  
5 right?  
6 A You're asking me -- I don't have independent  
7 knowledge of that. I don't know that.

8 Q Well, what about -- are you aware of a  
9 congressional investigation of Mr. Robertson  
10 and the data that he was supplying to you at  
11 RJ Reynolds and to the public?  
12 A When you say me, you mean me as -- in my  
13 scientific work?  
14 Q Yes, sir. Are you aware that Mr. Robertson  
15 was investigated by congressional committee?  
16 A Yes, and cleared of all allegations, as I  
17 understand it.  
18 Q Well, cleared of all allegations. Give me  
19 the report, please.  
20 MR. WAGNER: Judge, aren't we  
21 getting a little far afield here about  
22 matters that are clearly beyond the scope of  
23 direct examination?  
24 THE COURT: Sounds like it.  
25 MR. WAGNER: Can we get into  
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1 something that's relevant here? I object on  
2 that grounds, Your Honor.  
3 MR. MOTLEY: I'm sorry, Your  
4 Honor --  
5 MR. WAGNER: I make a formal  
6 objection on that ground.  
7 MR. MOTLEY: I didn't hear the  
8 objection.  
9 THE COURT: Sustained. If you want  
10 to ask him whether or not documents were  
11 presented to him or material presented to  
12 him that there was a question about, you can  
13 do that, but I don't think it's relevant,  
14 the report, Counsel.  
15 MR. MOTLEY: Can I just ask him if  
16 he's seen that?  
17 THE COURT: Go ahead and ask him if  
18 he's seen it.  
19 Q Have you seen the Staff Report of the  
20 Majority Staff Subcommittee of Congress on  
21 Health and the Environment dated December  
22 20, 1994 about environmental tobacco smoke?  
23 A No, I have not. I'm sorry. It was a  
24 congressional? What did you say?  
25 Q Yes.

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1 A No, I've not seen it.  
2 Q Is Winston a cigarette sold by RJ Reynolds?  
3 A Yes, it is.  
4 Q Do you know what additives are?  
5 A As a general concept in a consumer product,  
6 sure, I know what additives are.  
7 Q I'm talking about a cigarette. Do you know  
8 that RJ Reynolds adds chemicals to natural  
9 tobacco, don't you?  
10 A There are some additives to some cigarettes.  
11 Winston is currently marketed as a no  
12 additive cigarette.  
13 Q As no additives; right?  
14 A Right.  
15 Q That's not true, is it?  
16 A To my knowledge, that's true.



17 Q Sir, don't you know that RJ Reynolds has  
18 additives in the paper and in the filter?  
19 A I believe the ads reflect that, yes.  
20 Q The ads say no additives, period; don't you  
21 know that?  
22 A Well, I've seen some discussion of that. I  
23 believe I've seen where it says no additives  
24 to the tobacco.  
25 Q Well, have you not seen where they say

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1 Winston, No Bull, no additives, period?  
2 A I have seen a number of ads. I don't know  
3 that I've looked at all the print on them.  
4 Advertising and marketing are not my field  
5 of expertise.  
6 MR. MOTLEY: Your Honor, we move  
7 admission of the next number at this time.  
8 THE COURT: This will be 83. Thank  
9 you.  
10 Any objection, Mr. Furr?  
11 MR. FURR: Just on the grounds of  
12 relevance, Your Honor. And I object to it  
13 being admitted during the testimony of this  
14 witness. It's totally unrelated to anything  
15 he testified to on direct examination.  
16 THE COURT: Overruled. 83 will be  
17 admitted.  
18 (Plaintiffs' Exhibit(s) 83 received in  
19 evidence.)  
20 Q Now, sir, look at it. It says, "Never mess  
21 up an apology with an excuse."  
22 Do you see that?  
23 A I do.  
24 Q Is RJ Reynolds apologizing to people for  
25 putting chemicals in cigarettes?

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1 MR. WAGNER: Objection, Your Honor.  
2 It's argumentative to frame questions in  
3 that fashion.  
4 THE COURT: I agree. Sustained.  
5 MR. FURR: It's also misleading.  
6 THE COURT: Sustained.  
7 Q Well, what does this ad mean, "Never mess up  
8 an apology with an excuse" in reference to  
9 additives, sir.  
10 A I have no idea.  
11 Q You don't have any idea, okay. Do you see  
12 down at the bottom it says, "New Winston, No  
13 Additives"?  
14 A I do.  
15 Q You don't see anywhere on there that says no  
16 additives in the tobacco, do you?  
17 A I don't see anything like that on here, no.  
18 Q And you don't see anywhere on here where  
19 they say no additives in the tobacco, but  
20 additives, chemicals are added to the paper  
21 and the filter, do you?  
22 A I don't see that, no.  
23 MR. MOTLEY: Your Honor, would this  
24 be a convenient time to take the break?  
25 THE COURT: I think we will. When

1           you're done with those, ladies and  
2           gentlemen, you can pass them down.  
3           We'll take the noon break. We'll start  
4           again at 1:00 p.m.  
5           (Standard admonition)  
6           THE COURT: See you at 1:00.  
7           Doctor, you may step down.  
8           MR. CASSELL: All rise.  
9           (A lunch recess was taken.)  
10          MR. CASSELL: All rise.  
11          THE COURT: Be seated. Jury back  
12          in its entirety, together with the  
13          alternates.  
14          Doctor?  
15          MR. OHLEMEYER: May we approach for  
16          a moment, Your Honor?  
17          (Bench discussion)  
18          THE COURT: State your name again  
19          for the jury, please.  
20          THE WITNESS: Michael Wayne Ogden.  
21          THE COURT: Mr. Motley.  
22          MR. MOTLEY: Yes, sir.  
23 BY MR. MOTLEY:  
24        Q    Dr. Ogden, this document was produced in the  
25             Wiley case, and you see it says, "Human  
              OGDEN-CROSS

1           Studies on the Biological Activity of ETS"  
2           at the top?  
3        A    Right.  
4        Q    Okay. And it then discusses certain  
5             hypotheses that are proposed to be tested?  
6        A    Right.  
7           MR. MOTLEY: Your Honor, we move  
8           3285 into evidence. It was produced in this  
9           case.  
10          THE COURT: Mr. Furr?  
11          MR. FURR: I can't completely read  
12          mine. Who was this produced by?  
13          MR. MOTLEY: RJ Reynolds.  
14          MR. FURR: RJ Reynolds. One  
15          moment, Your Honor.  
16          MR. MOTLEY: I believe it was  
17          produced in Mr. Wagner's office.  
18          MR. FURR: No objections.  
19          THE COURT: 3285 will be admitted.  
20          Go ahead, Counselor.  
21          (Plaintiffs' Exhibit(s) 3285 received  
22          in evidence.)  
23        Q    Dr. Ogden, while they're passing that out,  
24             are you aware of studies that have been done  
25             where it has been claimed that asthmatic  
              OGDEN-CROSS

1           children are adversely affected by  
2           secondhand smoke?  
3        A    General --  
4           MR. FURR: Objection, relevance,  
5           Your Honor.  
6           MR. MOTLEY: Your Honor, he's here  
7           from RJ Reynolds. He was about to answer

8 the question. If he doesn't know, he's an  
9 R & D --  
10 THE COURT: That doesn't make the  
11 question relevant.  
12 MR. MOTLEY: I understand, Your  
13 Honor. He's in charge of R & D research. I  
14 think it's appropriate to ask him if he's  
15 aware of research dealing with ETS and kids.  
16 I'm not talking about marketing to kids.  
17 I'm talking about kids --  
18 THE COURT: All right. He can  
19 answer that limited question.  
20 MR. FURR: Your Honor, so that we  
21 don't become confused here, not to disparage  
22 Dr. Ogden's current role, he's not in charge  
23 of R & D research for RJ Reynolds.  
24 THE COURT: I understand that. You  
25 can answer the question, Doctor.  
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1 A Can I ask you to rephrase?  
2 Q I'll start over. Are you aware of studies  
3 that suggest that children, small children,  
4 who have asthma, already have asthma, when  
5 they have a parent that smokes in the home  
6 with a small child who already was born with  
7 asthma, that it makes it worse, makes his  
8 asthma worse?  
9 A I've heard that hypothesis, that allegation,  
10 yes. I'm not aware of any research that  
11 Reynolds has done directly addressing  
12 asthma, per se.  
13 Q Look at this document 3285, sir. Did RJ  
14 Reynolds do human experiments on children?  
15 A Are you asking me in the context of this  
16 document or ever?  
17 Q Yes, sir, I'm asking you -- in the middle of  
18 the page, it says, "We may use children from  
19 some end points in doing a study of smoke in  
20 the house." And then over on the second  
21 page, Item D, the last item on the second  
22 page, about filling out a detailed medical  
23 history questionnaire to evaluate their  
24 susceptibility to infections may be  
25 particularly important for the kids, for the

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1 children.  
2 A I'm not sure from what study this may have  
3 come from. I'm aware that we have  
4 investigated the potential of certain  
5 cigarette, new cigarette designs to affect  
6 asthma in children, yes.  
7 Q Did you use the children and expose them to  
8 the smoke, sir?  
9 A No. This was not a laboratory experiment.  
10 This was a -- well, again, I'm not sure what  
11 this document you've handed me is. You're  
12 asking me now the general familiarity  
13 question. And I would describe that  
14 experiment as one conducted by researchers  
15 outside of RJ Reynolds; that is, researchers  
16 at a medical facility, medical school, who

17 recruited parents who were smokers that had  
18 children, and the parents were smokers, and  
19 looked at the incidence of asthma attacks  
20 when they smoked their usual brand versus  
21 whether they smoked a new cigarette under  
22 development.

23 Q What new cigarette? Might that have been,  
24 Premier or Eclipse?

25 A Eclipse, I believe.

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1 Q And, in fact, was there less episodes of  
2 asthmatic outbursts when the parents smoked  
3 Eclipse versus say Camels or Marlboros?

4 A I'm not aware of the findings of that study.  
5 I've not seen any conclusions.

6 Q Have they been published?

7 A I'm not aware of having any seen any. I  
8 don't know that -- as far as I know, the  
9 research hasn't been completed. I'm not  
10 sure. That's not an experiment that I was  
11 in charge of or was principal investigator  
12 on, so I simply don't know.

13 Q Let me get this clear. RJ Reynolds wanted  
14 to test, with parents who had asthmatic  
15 children in their home, whether Eclipse  
16 would be less provocative or more  
17 provocative or equally as provocative of  
18 asthmatic attacks in those children. Is  
19 that fair?

20 A I wouldn't say quite that way, but basically  
21 to test if there was a difference in the  
22 incidence of asthma attacks.

23 Q All right. Now, this study that I have  
24 in -- the jury has, 3285 in front of them,  
25 the experimental design was to perform the

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1 study in homes rather than at a laboratory.  
2 Then they had 100 spouse pairs, 50 both  
3 spouses are never smokers, 51 spouses are  
4 never smokers, other smokes one pack per  
5 day. And then you have a saliva test  
6 performed to verify smoking status. And  
7 then biological evaluation will be performed  
8 in all 200 individuals, smokers will serve  
9 as control, positive controls, may use  
10 children for some end points. What is an  
11 end point, sir?

12 A An end --

13 MR. FURR: Excuse me, Doctor. Your  
14 Honor, Dr. Ogden has attempted to respond  
15 generally about his knowledge of the study.  
16 He's indicated that he wasn't involved in  
17 the study, he doesn't have specific  
18 knowledge of the study, and I don't think  
19 it's proper just to read sections of this  
20 study and ask him questions about it.

21 THE COURT: I think the question  
22 was generally what the term "end point"  
23 means in research. You can tell us.

24 MR. MOTLEY: Yes, sir. That was  
25 the question, Judge. You said it better

1 than I did.  
2 A That's a question I can answer. An end  
3 point would be the result of any test. For  
4 example, the pumps that I showed and how to  
5 measure nicotine, the measure of nicotine in  
6 that sample would be the end point.  
7 Measuring, for example, the metabolite of  
8 nicotine in saliva in a smoker would be an  
9 end point. An end point could be an answer  
10 to the question. The end point could be the  
11 number of times a person blinks their eyes.  
12 It could be anything. It would be the  
13 result of making a test or an experiment.  
14 Q Doctor, let me --  
15 MR. MOTLEY: Do you have those ads?  
16 Q -- return to where we were before lunch.  
17 MR. MOTLEY: Plaintiff moves these  
18 advertisements into evidence against RJ  
19 Reynolds Tobacco only.  
20 MR. WAGNER: Judge, we object to  
21 these. They don't have anything to do with  
22 the issues in this case. These ads weren't  
23 published until -- what's the date they were  
24 published?  
25 THE COURT: How are they relevant,  
OGDEN-CROSS

1 Mr. Motley?  
2 MR. MOTLEY: Your Honor, the issue  
3 of additives that was addressed in our case,  
4 that the use of additives in cigarettes  
5 promoted additional carcinogens in  
6 sidestream smoke. The fact that Reynolds is  
7 advertising Winston without additives proves  
8 that the cigarettes they sell that have  
9 additives in them are more likely dangerous  
10 than not.  
11 MR. WAGNER: Thank you for the jury  
12 argument, but I move counsel's remarks be  
13 stricken, Your Honor.  
14 MR. MOTLEY: Your Honor, you asked  
15 me to tell you what the relevance was.  
16 THE COURT: The motion to strike is  
17 denied. He was responding to my question.  
18 These will be marked 84 and 85. They'll be  
19 admitted.  
20 (Plaintiffs' Exhibit(s) 84 and 85  
21 received in evidence.)  
22 Q Let's look at the first one called, "Do The  
23 Math" first, Doctor.  
24 A Okay.  
25 Q Do you have that one?

1 MR. MOTLEY: Ladies and gentlemen,  
2 you have that one?  
3 Q Have you looked at that while we were  
4 passing them out, by any chance?  
5 A I see it.  
6 Q Do you see it says yours, with, what do you  
7 call that, a what you call it? Asterisk.

8 You see "yours" with an asterisk?  
9 A I do.  
10 Q  
11 MR. WAGNER: Judge, just so I don't  
12 have to keep interrupting, can I have a  
13 continuing objection to this line of  
14 questioning on the grounds that these are  
15 1988 ads, they have nothing to do with this  
16 case, they're outside the scope of this  
17 witness' direct examination, and they are  
18 irrelevant?  
19 THE COURT: Al right. I'll show  
20 that as a continuing objection, Counselor.  
21 Go ahead, Mr. Motley.  
22 Q And down at the bottom of the ad, they have  
23 an asterisk and they explain what they mean.  
24 Do you see that?  
25 A I do.

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1 Q It says, "Laboratory analyses of the top ten  
2 United States non-menthol brand styles show  
3 all of their tobaccos contain a minimum of 6  
4 percent additives on a dry weight basis."  
5 Is that what it says; right?  
6 A That's what it says.  
7 Q Now, one of the top ten U.S. non-menthol  
8 brand styles is Camel, isn't it?  
9 A You're asking me to testify about market  
10 share. I don't know. At one point it has  
11 been. I don't know whether it currently is  
12 or not.  
13 Q Well, yours would also -- should mean ours  
14 if Camel was one of the top ten, wouldn't  
15 it? Yours and ours; would it be fair to say  
16 that?  
17 A No. I mean, I'm not -- I'm not an  
18 advertising specialist. Yours would imply  
19 whatever cigarette you're smoking that is  
20 not Winston.  
21 Q Okay.  
22 A That's what it would say to me.  
23 Q I see. That's fair. I can understand that.  
24 All right.  
25 And this is trying to, would you say,

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1 is trying to encourage smokers to switch to  
2 Winstons because it doesn't have additives  
3 in it?  
4 A Again, I'm not an expert in advertising.  
5 I'm a consumer, like everyone else in the  
6 room is. The purpose, I would see in this  
7 advertising, is certainly to encourage brand  
8 switching, from Coke to Pepsi, from Marlboro  
9 to Winston, sure.  
10 Q Now, the next one is called, "I want bull in  
11 my dog, not in my smokes."  
12 What does that mean?  
13 A I have no idea. I assume --  
14 Q You don't recognize that that's an  
15 advertisement for the Georgia Bulldog  
16 football team?

17 A I doubt it. There are not too many fans  
18 Georgia Bulldog fans around Winston-Salem.  
19 Q That's right. From North Carolina I  
20 wouldn't expect to be boasting too much  
21 about the Bulldogs.  
22 A I assume it meant as in bulldog, but I don't  
23 know if it's referring to Georgia.  
24 Q Maybe they're referring to as additives as  
25 bull.

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7095

1 A Well, no, that's not the way I read it, but  
2 I'm sure you can read it one of many  
3 different ways.  
4 MR. MOTLEY: Let me ask the witness  
5 to identify something, Your Honor, then I'll  
6 give a copy to --  
7 THE COURT: All right.  
8 Q This is an ad out of a magazine, sir, and I  
9 want to ask you if you see over here in the  
10 left a copyright?  
11 A I do. Yes.  
12 Q And a copyright of RJ Reynolds Tobacco  
13 Company?  
14 A It says 199 --  
15 Q Copyright?  
16 A -- '8, I believe, RJ Reynolds Tobacco  
17 Company.  
18 Q RJ Reynolds Tobacco Company. Do you  
19 recognize that as an ad for Winstons? Do  
20 you see Winstons?  
21 A Well, let me see it. I haven't seen it  
22 before.  
23 Q I'm sorry. Winston box.  
24 A It would appear to be an ad for Winston,  
25 yes.

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1 MR. MOTLEY: We move as the next  
2 number, Your Honor. I'll give counsel a  
3 copy of it.  
4 THE COURT: Be 86.  
5 MR. FURR: Is this on your exhibit  
6 list?  
7 THE COURT: Any objection,  
8 Mr. Furr?  
9 MR. MOTLEY: We had it listed on  
10 our exhibit list, yes, sir.  
11 MR. WAGNER: While Mr. Furr is  
12 examining the document, Your Honor, I think  
13 I heard correctly it has a 1998 copyright on  
14 it; is that correct?  
15 MR. MOTLEY: Yes, sir, same  
16 argument I made previously. It relates  
17 back --  
18 MR. WAGNER: We would object at  
19 least on the ground of relevancy to any  
20 issues in this case, while Mr. Furr is  
21 examining the document, Your Honor.  
22 THE COURT: Mr. Furr.  
23 MR. FURR: No further objections.  
24 The same objection as Mr. Wagner with  
25 respect to this, though.

1 THE COURT: I reviewed the  
2 document. It can be argued that it relates  
3 back. 86 will be admitted.  
4 (Plaintiffs' Exhibit(s) 86 received in  
5 evidence.)  
6 Q Dr. Ogden, 86 is a rather provocative ad,  
7 wouldn't you say?  
8 A Rather, yes.  
9 Q And it's a provocative ad that's put out by  
10 RJ Reynolds; correct?  
11 A It's -- yes. It shows copyright RJR, and  
12 it's a Winston ad, sure.  
13 Q It's pretty provocative, isn't it?  
14 A Well, it's certainly eye catching.  
15 Q What would you say that ad means before I  
16 show it to the jury?  
17 A I'm not sure quite --  
18 MR. FURR: I've got to object,  
19 asking this witness --  
20 THE COURT: Sustained to the last.  
21 MR. MOTLEY: I'll show it to the  
22 jury at this time, Your Honor.  
23 THE COURT: All right. Go ahead.  
24 Mr. Cassell.  
25 MR. MOTLEY: Your Honor, we move at

1 this time Exhibit 942 against BAT. Did I  
2 give Your Honor a copy? I'm sorry.  
3 THE COURT: I have a copy.  
4 MR. MOTLEY: And the immediate  
5 relevance, Your Honor -- what page is it?  
6 Page 10, Your Honor.  
7 MR. REYNOLDS: Your Honor, may I  
8 have an opportunity to look at this?  
9 THE COURT: Certainly.  
10 MR. REYNOLDS: I assume he means  
11 BAT Industries, when he says BAT. Of  
12 course, he's been instructed to use the  
13 right name.  
14 THE COURT: You're moving this  
15 against BAT Industries and Brown &  
16 Williamson, Counselor?  
17 MR. MOTLEY: Yes, I am, pursuant to  
18 Your Honor's previous ruling. I'm sorry.  
19 The pages have different numbers. This is  
20 page 10 at the bottom, page 9 at the top.  
21 And here's a limiting instruction.  
22 THE COURT: All right. Thank you.  
23 MR. MOTLEY: And I'm particularly  
24 referring to item D at the bottom of the  
25 very last paragraph, Judge.

1 THE COURT: All right.  
2 Mr. Furr, any objection?  
3 MR. OHLEMEYER: I do, Your Honor.  
4 May we approach?  
5 THE COURT: Yes.  
6 (Bench discussion)  
7 THE COURT: Carry on, Mr. Motley.



8 Q Dr. Ogden, isn't it a fact, sir, that  
9 Winston has created this No Bull campaign,  
10 this additives-free campaign, because they  
11 understand that consumers are afraid of not  
12 knowing what's in products that they take  
13 into their body?

14 A I can't testify to what the consumers might  
15 think. I'm not involved in market research  
16 as far as, or cigarette design, so I  
17 really -- I could only speculate and I  
18 prefer not to.

19 Q All right. Let me turn to another subject.  
20 Filters. Would you just broadly explain to  
21 the jury what a filter is with respect to  
22 cigarettes. You remember they showed  
23 that -- the Eclipse model, and it had a  
24 filter on there?

25 A Uh-hum.

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1 Q Do you know what -- when you see the word  
2 filter, you know that some cigarettes have  
3 filters, like Winstons; right?

4 A Right.

5 Q Okay. And the purpose of that is to do  
6 what?

7 A I'll answer your question. I just want to  
8 make sure you understand that cigarette  
9 design is not my area of expertise.

10 Q I understand. Just generally. I'm not  
11 asking you for specific detail.

12 A A filter would be there generally to lower  
13 the tar, for example.

14 Q Okay. To lower the tar. Now, you indicated  
15 that environmental tobacco smoke, the  
16 mainstream component, is filtered through  
17 the smoker's lungs; right?

18 A I didn't say that.

19 Q Well, is that true?

20 A No. It's not true the way you've said it, I  
21 don't think.

22 Q Well, is some of the smoke that's exhaled  
23 filtered through the smoker's lungs?

24 A I'm hanging up on your characterization of  
25 "filtered through the smoker's lungs." I

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1 don't think that's a fair characterization.  
2 Certainly, a part of environmental tobacco  
3 smoke is aged and diluted, exhaled  
4 mainstream smoke.

5 Q And are you saying that the process of it  
6 going through the lungs doesn't filter it to  
7 some extent?

8 A I don't know what you mean by filter. That  
9 suggests to me passing through. And that's  
10 not the way I would envision that  
11 characterization.

12 Q Well, none of the smoke that's exhaled from  
13 a smoker, which we saw in those movies, when  
14 they go like this, (indicating), are you  
15 saying none of that smoke that comes out of  
16 his mouth was in his lungs before it came

17 out?  
18 A No, I didn't say that. You said filtered  
19 through. I'm trying to envision how it got  
20 filtered through a lung. I can't envision  
21 that. So certainly it was inhaled. Then a  
22 portion of that was exhaled.  
23 Q All right. Well, something happens to it.  
24 It's not the same smoke when it comes out as  
25 when it went in, is it?

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1 A Generally not, no.  
2 Q It's not. Okay. You agree with that?  
3 A General principle, that's true, sure.  
4 Q Okay. Have you ever heard of using lawyers  
5 as filters?  
6 MR. FURR: Judge, objection, Your  
7 Honor. It's argumentative.  
8 MR. MOTLEY: I'm asking a specific  
9 question from a specific document, and I'll  
10 connect it up.  
11 MR. WAGNER: Well, Judge, we're off  
12 again doing what Your Honor, I thought, just  
13 ruled what wasn't going to be done. Now  
14 we're off on another document. It's  
15 argumentative.  
16 THE COURT: Lawyers? Sustained.  
17 Q Well, let me ask you this question, sir:  
18 Did the Tobacco Institute use lawyers -- RJ  
19 Reynolds is a member, did they use lawyers  
20 to try to create a controversy going about  
21 whether secondhand smoke killed people or  
22 not?

23 MR. WAGNER: Judge, please. This  
24 pejorative and characterizations and  
25 argument, argumentative form of question, I

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1 object.  
2 THE COURT: Why don't you rephrase  
3 that. Sustained. Rephrase the question.  
4 Q Dr. Ogden, do you have any personal  
5 knowledge as to whether or not the Tobacco  
6 Institute used lawyers to create a  
7 controversy about whether secondhand smoke  
8 would injure people, yes or no?  
9 A No, I don't.  
10 Q You don't. Have you heard of a law firm  
11 called Covington & Burling?  
12 MR. WAGNER: Judge, he just  
13 answered the question, saying he didn't, so  
14 I object to further questioning the witness  
15 about this subject. There's no foundation.  
16 THE COURT: He can answer the last  
17 question.  
18 Q You know that law firm, don't you?  
19 A I've heard of the name, sure.  
20 Q Well, you've worked with them, haven't you?  
21 A I've met with maybe one or two people that  
22 may be associated with that firm, sure.  
23 Q And what are their names?  
24 A I'll have to think.  
25 Q John Rupp?

1 A I've met Mr. Rupp. And also an Ely, I  
2 believe is another name.  
3 Q Clawson Ely?  
4 A I believe so.  
5 Q How do you spell that; do you know? My  
6 apologies to Mr. Ely. Let's spell it like  
7 it sounds, which ain't always true.  
8 Now, Dr. Ogden, are you -- did you know  
9 a gentleman named Charles M. Harper called  
10 Mike, former CEO?  
11 A Are you asking me if I know him? The answer  
12 is no.  
13 Q You know who it is, don't you?  
14 A I may have misstated, but I believe he's a  
15 former CEO of RJR Nabisco or something like  
16 that.  
17 Q Okay. He was the chairman of RJR Nabisco in  
18 1996, wasn't he?  
19 A I'm not sure when.  
20 Q Well, were you employed by RJR Tobacco in  
21 1996?  
22 A Yes. I was.  
23 Q And you owned directly shares of stock or  
24 have stock options for a considerable amount  
25 of stock in RJR, don't you?

1 A I wouldn't call it considerable.  
2 Q How many shares?  
3 A I don't own any outright.  
4 Q You own options, right?  
5 A I own a few options.  
6 Q What's a few?  
7 A I'm guessing here, I would say in the  
8 neighbor of a thousand.  
9 Q A thousand.  
10 A Right.  
11 Q Did you own shares of stock in RJR in 1996?  
12 A As far as options?  
13 Q Yes.  
14 A Yes.  
15 Q And did you own any stock outright?  
16 A No, I don't.  
17 Q Do you know Mr. Steven Goldstone?  
18 A Not personally. I know who he is.  
19 Q Did you know who Mr. James W. Johnston was  
20 in 1996?  
21 A Yes.  
22 Q And who was Mr. Johnston?  
23 A Mr. Johnston was president of the RJR  
24 Tobacco in the U.S.  
25 MR. MOTLEY: May I approach the

1 witness, Your Honor?  
2 THE COURT: Yes.  
3 Q Dr. Ogden, whether you attend them or not,  
4 you are aware, are you not, that there are  
5 annual meetings of shareholders held in  
6 Winston-Salem, usually?  
7 A I'm aware that there are annual meetings.

8 I'm not generally in Winston-Salem.  
9 MR. FURR: Give us copies of what  
10 you have.  
11 MR. MOTLEY: Sure.  
12 Your Honor, we move the annual -- the  
13 transcript of the annual meeting of  
14 shareholders of RJR Nabisco against RJR  
15 Nabisco and RJ Reynolds Tobacco only at this  
16 time.  
17 MR. WAGNER: Judge, what has this  
18 got to do with this witness' testimony?  
19 MR. MOTLEY: I'm about to ask  
20 him -- I'm going to move the document in  
21 first, Judge. It's an official publication  
22 of the defendant in this case. It's got  
23 statements, and statements in here by the  
24 chairman of the board, which is what I'm  
25 going to ask him about in a moment that  
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1 deals with environmental tobacco smoke.  
2 THE COURT: It will be marked 87,  
3 be marked Plaintiffs' 87, and on counsel's  
4 representation, subject to a motion to  
5 strike, I'll allow it.  
6 87 will be admitted.  
7 (Plaintiffs' Exhibit(s) 87 received in  
8 evidence.)  
9 MR. MOTLEY: Your Honor, I'll give  
10 you -- we've marked it as 87.  
11 THE COURT: Mr. Furr, I failed to  
12 ask, did you have another objection? I'm  
13 sorry.  
14 MR. FURR: Not yet.  
15 THE COURT: All right. Do you want  
16 to be heard?  
17 MR. FURR: No. I join Mr. Wagner.  
18 THE COURT: All right.  
19 MR. MOTLEY: Do I proceed then,  
20 Your Honor?  
21 THE COURT: Go ahead.  
22 This is admitted, ladies and gentlemen,  
23 only against RJR Nabisco and RJR Tobacco  
24 Company.  
25 MR. WAGNER: Judge, since selected  
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1 pages are being passed out to the jury,  
2 could we have those identified for us?  
3 MR. MOTLEY: Sure. Page 60, 61,  
4 and 62, I believe.  
5 Q And, Dr. Ogden, the question begins, that I  
6 want to ask you about, on page 58. Do you  
7 have that in mind, the question by  
8 Ms. Donley? And it's about environmental  
9 tobacco smoke.  
10 A I see it, yes.  
11 Q See that? Okay. All right. If you would,  
12 then, please, turn over to page 60.  
13 A You're asking me to read this?  
14 Q Well, you can. It essentially says, I'll be  
15 glad to read it, "There are so many  
16 illnesses --" this is a claim being made by

17 a stockholder, you understand?  
18 MR. WAGNER: Judge, can we  
19 approach?  
20 THE COURT: All right. You can  
21 read that to yourself, Mr. Ogden.  
22 (Bench discussion)  
23 THE COURT: Go ahead, Mr. Motley.  
24 MR. MOTLEY: Yes, sir.  
25 Q Do you have the question in mind? Don't  
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1 read it out loud, sir, but to yourself. The  
2 question was asked on page 58. The Court  
3 asked you to read it yourself.  
4 A I read it, yes.  
5 Q And you know it has to do with environmental  
6 tobacco smoke and children; correct?  
7 A It does.  
8 Q Okay. Now, on page 60, I believe the ladies  
9 and gentlemen of the jury have page 60, at  
10 the bottom, the chairman of the board,  
11 Mr. Harper, "I will not restrict anybody's  
12 right to smoke. If the children don't like  
13 to be in a smoky room, and I wouldn't like  
14 to be, they'll leave. I don't know if  
15 you've got any grandchildren; I do. And if  
16 there is smoke around that's uncomfortable,  
17 they'll leave."  
18 At some point -- then, "An infant  
19 cannot leave a room" is asked. Chairman  
20 says, "Okay. At some point they begin to  
21 crawl, okay? And then they begin to walk,  
22 and so on. Anyway, I guess that's enough  
23 said."  
24 Now, sir, I want to ask you a question.  
25 Is it the current position of RJ Reynolds  
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1 Tobacco Company that it's okay for little  
2 children to be around cigarette smoke in a  
3 room?  
4 MR. WAGNER: Judge, what does that  
5 have to do with what he read to the witness?  
6 It's irrelevant. Again, we're asking this  
7 witness questions about things that are far  
8 beyond the scope of his direct examination.  
9 We've been at this now for about two or  
10 three hours asking irrelevant questions.  
11 MR. FURR: I think we're moving to  
12 strike now, Your Honor, since he hasn't tied  
13 it up.  
14 THE COURT: Objection overruled.  
15 Motion to strike denied. You can answer the  
16 question.  
17 A Can I ask you to restate it?  
18 Q Yes, sir. Is it the current position of RJR  
19 Reynolds Tobacco Company that it's okay for  
20 little kids, babies, infants, to be in a  
21 smoke-filled room?  
22 A No.  
23 Q And if they didn't like the smoke, they can  
24 crawl away?  
25 A I would say that's not --

1 MR. WAGNER: Object to the  
2 argumentative nature of the question, too,  
3 Your Honor.

4 THE COURT: Rephrase.

5 Q Is it the position of RJ Reynolds Tobacco  
6 Company, today currently, sir, that it's  
7 okay for babies to be in room, a  
8 smoke-filled room, that they can crawl away?

9 A No, I would say that's not true.

10 THE COURT: You may pass that down,  
11 ladies and gentlemen.

12 MR. WAGNER: Judge, while we have  
13 this lull here, may I retrieve a copy of  
14 that so we can see what was passed to the  
15 jury?

16 THE COURT: Certainly.

17 MR. WAGNER: Can I have a copy?  
18 Thank you.

19 THE COURT: Plaintiffs' 87 was  
20 admitted, and for the record, the cover page  
21 along with page 60, 61, and 62 was exhibited  
22 for the jury.

23 Go ahead, Counselor.

24 Q Doctor, I want to try to get you out of  
25 here, so I'm going to ask just a few more

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1 areas that you covered, if you don't mind.

2 Now, you told the jury about cigarette  
3 equivalents in your opening statement, did  
4 you not?

5 A I was asked some questions on it, yes, and I  
6 answered those.

7 Q And, in fact, you're aware that RJ Reynolds  
8 took out an advertisement discussing  
9 cigarette equivalents to the public in a way  
10 of trying to suggest that secondhand smoke  
11 was not dangerous, did they not?

12 MR. FURR: Objection,  
13 argumentative.

14 THE COURT: I think there was a  
15 couple different questions in there,  
16 Counselor.

17 Q First, are you aware that RJ Reynolds took  
18 out an advertisement across the country  
19 about secondhand smoke using cigarette  
20 equivalents?

21 A I'm aware that an ad was taken out. Whether  
22 it was across the country or -- I'm not  
23 sure, but certainly an ad was in some  
24 newspapers.

25 MR. FURR: Do you have one that we  
OGDEN-CROSS

1 can read the bottom of the ad? This is not  
2 legible at the bottom. It's very important  
3 the complete ad be looked at.

4 MR. MOTLEY: Well, my copies that  
5 were produced by your company, I'm sorry, if  
6 you can't read the bottom of them. I don't  
7 know what's on the bottom of it. I don't

8 have a copy that you can read the bottom of  
9 it.  
10 MR. FURR: We need to find one,  
11 Your Honor, because what's on the bottom of  
12 this is critical to understanding this ad.  
13 MR. MOTLEY: Well, then I will  
14 withdraw it at this time, Your Honor, and  
15 assume counsel will produce it to us in this  
16 case, like they were supposed to have copied  
17 it so we could read the whole part of it.  
18 THE COURT: Plaintiffs' 88 is  
19 withdrawn at this point pending securing a  
20 legible copy.  
21 MR. MOTLEY: It's just the bottom  
22 part that is illegible, Your Honor.  
23 Q Having just looked at that for foundation  
24 purposes, without getting into it, does that  
25 look like an ad that RJ Reynolds has taken  
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1 out?  
2 A Yes, it does.  
3 Q Now, Doctor, are you aware that Dr. Jenkins  
4 has been critical of using cigarette  
5 equivalents, the gentleman who preceded you  
6 on the witness stand?  
7 A Yes, I am.  
8 Q And are you aware, sir, that RJ Reynolds  
9 sponsored a study which was produced to us  
10 from their files sponsored by the Tobacco  
11 Institute where the authors of the study  
12 were very critical of using cigarette  
13 equivalents to explain the hazards of  
14 secondhand smoke?  
15 A There were several questions wrapped up in  
16 that. I'm not --  
17 Q You've adopted the Judge's ruling.  
18 A Well, I'm trying to make sure I understand  
19 and answer the question you've asked. First  
20 you asked me was I aware that there was a  
21 file produced. I'm not -- I don't have any  
22 such awareness. Later you said about  
23 cigarette equivalents and the hazards from  
24 smoking that -- if you say that's their  
25 words, that's one thing. That's not what I  
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1 said. That's not my testimony.  
2 Q I didn't say that you said that.  
3 A That's what I was trying to clarify.  
4 Q Do you know that there is a document  
5 produced by your company from your files  
6 that demonstrates that scientists that were  
7 paid in part by Reynolds said you shouldn't  
8 use cigarette equivalents because it's  
9 misleading?  
10 A I'm not aware of such a file. I'm aware of  
11 the debate in the scientific literature, and  
12 the paper that I wrote, that I described  
13 earlier, I think adequately characterizes  
14 the way people feel about it.  
15 MR. MOTLEY: Your Honor, we move  
16 into evidence Exhibit 3332 against Reynolds

17 only.  
18 THE COURT: Mr. Furr, any  
19 objection?  
20 MR. FURR: Yes, we would object,  
21 Your Honor. It may well have been produced  
22 by Reynolds' files, but it's clearly not an  
23 RJ Reynolds document. It purports to be a  
24 report on a study commissioned by the  
25 Tobacco Institute. Merely because it came  
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1 out of Reynolds' files, doesn't make it  
2 admissible against Reynolds.  
3 MR. MOTLEY: Your Honor, it's  
4 admissible on the issue of notice. And if  
5 you look at the last page of the document,  
6 Your Honor, which is Bates 0027, before the  
7 footnotes, the references, says  
8 "Acknowledgments: Supported by contract  
9 from the Tobacco Institute, Washington,  
10 D.C." And if for no other reason, it would  
11 be able to be used on cross-examination as a  
12 learned treatise.  
13 THE COURT: 3332 will be admitted  
14 over objection.  
15 (Plaintiffs' Exhibit(s) 3332 received  
16 in evidence.)  
17 MR. MOTLEY: Here's a limiting  
18 instruction.  
19 THE COURT: Thank you. This,  
20 ladies and gentlemen, is only admitted as to  
21 RJ Reynolds Tobacco Company only.  
22 MR. FURR: Your Honor, I understand  
23 it's being admitted for the purpose of  
24 notice only.  
25 MR. MOTLEY: I said it came from  
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1 their files, Your Honor. I said, if for no  
2 other reason, it should be admissible on the  
3 issue of notice.  
4 THE COURT: No, that was not the  
5 limitation on it.  
6 Q First, Doctor, would you confirm on Bates  
7 No. -- which are down at the -- ladies and  
8 gentlemen, down at the right bottom corner  
9 of the document, you'll see the nine-digit  
10 number, and that's the page numbers.  
11 If you would, Dr. Ogden, please look at  
12 0027, which is right before the footnotes.  
13 A Okay.  
14 Q The acknowledgment.  
15 A Uh-hum.  
16 Q "This work was supported by contract from  
17 the Tobacco Institute, Washington, D.C."  
18 Do you see that; the last sentence of  
19 the acknowledgment?  
20 A That's the last half of that sentence, yes.  
21 Q Okay. And RJ Reynolds is a member of the  
22 Tobacco Institute, to your personal  
23 knowledge; correct?  
24 A I assume so. I don't -- I'm not sure.  
25 Q Now, please look at page No., pagination No.



1 0016, which ladies and gentlemen, should be  
 2 the second page of the document. The cover  
 3 sheet should be the first full page. It  
 4 starts out "Introduction."  
 5 If you would look to the next to last  
 6 full paragraph that begins, "In addition,"  
 7 and ends "scientific basis."  
 8 MR. FURR: What page is this?  
 9 MR. MOTLEY: This is Bates No. 016.  
 10 Q Do you see the sentence, the last sentence  
 11 in the paragraph that starts off, "In  
 12 addition to the differences," it reads,  
 13 "Consequently, estimation of ETS exposure in  
 14 terms of cigarette equivalents is misleading  
 15 and unjustified on a scientific basis."  
 16 A Let me read the rest of the paragraph, if I  
 17 may, just to put in context.  
 18 Q Well, I'm asking you first, sir, you can  
 19 read whatever you want, but right now I'm  
 20 asking you if that sentence does, in fact,  
 21 not say that?  
 22 MR. WAGNER: Judge, I think the  
 23 witness is entitled to read enough of the --  
 24 THE COURT: He is. He is.  
 25 MR. WAGNER: Thank you.

1 MR. MOTLEY: But I think I'm  
 2 entitled to an answer to that question.  
 3 Then he can explain, Your Honor.  
 4 THE COURT: The question was, does  
 5 that sentence say what Mr. Motley indicated.  
 6 A I was reading and not listening, but I trust  
 7 your ability to read.  
 8 Q Listen and I'll read, how about that.  
 9 A That sounds pretty good.  
 10 Q "Consequently, estimation of ETS exposure in  
 11 terms of cigarette equivalents is misleading  
 12 and unjustified on a scientific basis."  
 13 Did those authors conclude that?  
 14 A They did. Well, that's what's written here,  
 15 yes.  
 16 Q Okay. And you see up on -- and you  
 17 understand that this was paid for in part by  
 18 RJ Reynolds Tobacco?  
 19 A Well, you've asked me a couple of questions  
 20 leading up to that. I read the  
 21 acknowledgment about Tobacco Institute.  
 22 Assuming that RJR is a member of that, then  
 23 yes, you could imply that.  
 24 Q I'm sorry? Let me ask you a question, sir.  
 25 Let me show you something. Read that to

1 yourself. Do you see that? Don't read it  
 2 out loud. Read it to yourself.  
 3 A Starting with, "The introduction"?  
 4 Q No, sir.  
 5 A I thought that's what you indicated.  
 6 Q No, sir, right there. See that?  
 7 MR. FURR: Excuse me, are we still

8 on the same document?  
9 MR. MOTLEY: I'm still on the same  
10 document. I'm just asking him to look at  
11 something so he'll be more comfortable with  
12 what I'm about to ask.  
13 Q Did you read that yourself?  
14 A I read that.  
15 Q Now, do you understand that that came from  
16 the files of RJ Reynolds?  
17 A That would be the implication it would  
18 suggest, yes.  
19 Q And did you see that document before you  
20 came in here and testified to this jury?  
21 A No, I have not.  
22 Q Doctor, do you know a Dr. Gaisch,  
23 G-A-I-S-C-H, Philip Morris-Europe?  
24 A The name doesn't ring a bell, no.  
25 Q Does RJ Reynolds claim that -- strike that.

OGDEN-CROSS

7121

1 My questions now are going to be in  
2 reference to this, this time period, okay,  
3 1954 to 1991. Does RJ Reynolds claim that  
4 its products, cigarette products, Camels,  
5 Winston and the like, sold between 1954 and  
6 1991, are not injurious to health?  
7 A I don't know whether that claim has ever  
8 been made or not.  
9 Q Well, as a member of R & D, do you stand  
10 here today and say cigarette products sold  
11 during that period of time are not injurious  
12 to human health?  
13 A Human health and injury to health is not the  
14 expertise of an analytical chemist. If you  
15 want to draw back to the association with  
16 disease, relative risk, then there's  
17 certainly an association with disease. But  
18 I'm not sure of the specific question you're  
19 asking me.  
20 Q Is a relative risk an injury?  
21 A No. A relative risk is a statistical  
22 calculation.  
23 Q So you don't -- you're saying you don't know  
24 whether the cigarettes sold from 1954 to  
25 1991 were injurious to human health?

OGDEN-CROSS

7122

1 MR. WAGNER: Judge, this has all  
2 been gone into at least twice before. Asked  
3 and answered.  
4 THE COURT: Not that specific  
5 question.  
6 MR. WAGNER: But the same -- well,  
7 all right.  
8 Q You just say you don't know?  
9 A I don't know.  
10 Q Do you believe that -- does RJ Reynolds  
11 Research Department believe that consumers  
12 have the right to expect a product sold to  
13 them that they take into their bodies to be  
14 safe?  
15 A I'm not sure I could characterize it that  
16 way. I think we certainly recognize that

17 the consumer has the right to the best  
18 cigarette product that we can manufacture,  
19 and I think we certainly deliver on that  
20 obligation.  
21 Q Well, if cigarette smoking -- if the  
22 testimony in this case has been cigarette  
23 smoking causes 400,000 deaths every year, do  
24 you think that is consistent with being  
25 safe?

OGDEN-CROSS

7123

1 A I think it's consistent with making the best  
2 cigarette that we can make. We can address  
3 allegations of health concerns, and we've  
4 done that over the years.  
5 Q Are you aware that in Canada, Camel --  
6 MR. MOTLEY: Do you have that  
7 exhibit? May I stand here, Your Honor?  
8 THE COURT: Go ahead.  
9 MR. MOTLEY: This is, Your Honor,  
10 Exhibit No. 32.  
11 THE COURT: All right.  
12 Q Are you aware that 200 -- how far is Canada,  
13 Judge? If a bird were to take off right now  
14 and make it through the snow, how many miles  
15 would he travel before he hit the Canadian  
16 border; do you know?  
17 A I have no idea.  
18 Q 200 maybe?  
19 A I don't --  
20 Q You can tell I'm not from around here  
21 either. Tell us what that Canadian pack of  
22 Camels says?  
23 MR. WAGNER: Judge, surely this has  
24 no relevancy to anything this witness has  
25 testified about, about what's done up in

OGDEN-CROSS

7124

1 Canada. I mean, what is the relevancy of  
2 this? I object, Your Honor. It's  
3 irrelevant, beyond the scope of direct  
4 examination by far.  
5 MR. MOTLEY: It's in evidence, Your  
6 Honor.  
7 MR. WAGNER: Well --  
8 THE COURT: Overruled. Go ahead.  
9 Q Sir, is that a pack of Camel cigarettes?  
10 A Yes, it is.  
11 Q Is that a brand manufactured by RJ Reynolds?  
12 A Yes, it is.  
13 Q And do you see that that Canadian pack of  
14 Camels says what? Read that for the record,  
15 please.  
16 A You're talking about the black and white  
17 warning label?  
18 Q The warning label, yes.  
19 A It says, "Tobacco smoke causes fatal lung  
20 disease in nonsmokers."  
21 Q Is that true or false?  
22 A To the best of my knowledge and review of  
23 the scientific literature, I think that's an  
24 overstatement of what science shows, sure.  
25 MR. MOTLEY: Your Honor, may I pass

1 this to the jury?  
2 THE COURT: Go ahead.  
3 MR. WAGNER: Judge, that's been  
4 passed to the jury.  
5 THE COURT: A lot of things have  
6 been passed, Counselor.  
7 Q Dr. Ogden, would you --  
8 MR. MOTLEY: This is in evidence,  
9 Your Honor. It's Plaintiffs' Exhibit 6147.  
10 It's 1968.  
11 Q That's before you joined the company, but I  
12 just want to ask you one question about this  
13 document.  
14 Do you see No. 2 on the first page?  
15 A I do.  
16 Q "Our basic position in the cigarette  
17 controversy is subject to the charge and may  
18 be subject to a finding that we are making  
19 false or misleading statements to promote  
20 the sale of cigarettes."  
21 Do you see that, sir?  
22 A I see that, yes.  
23 Q Do you know what false and misleading  
24 statements that that document refers to?  
25 A No, sir, I have no idea.

OGDEN-CROSS

1 Q Sir, do you know that the Food and Drug  
2 Administration concluded in 1996 that your  
3 company had withheld --  
4 MR. WAGNER: Objection, Your Honor.  
5 I'm going to object, Your Honor, to --  
6 THE COURT: Sustained. Sustained.  
7 Q Did you have anything to do, Dr. Ogden, with  
8 turning over documents to the Food and Drug  
9 Administration in 1994 and 1995?  
10 MR. WAGNER: Object, Your Honor,  
11 same reason. Irrelevant.  
12 MR. MOTLEY: It's in evidence, Your  
13 Honor. You allowed the Findings of Fact  
14 into evidence last week.  
15 THE COURT: He can answer the last  
16 question yes or no.  
17 A I don't know that I can answer it yes or no.  
18 I have not provided any documents specific  
19 to that, but certainly the company and the  
20 R & D departments are under document  
21 retaining orders from the variety of  
22 lawsuits, and we certainly comply with all  
23 of those. So it may be that some of my  
24 documents ended up there, but I have no  
25 idea.

OGDEN-CROSS

1 Q You didn't have anything to do with  
2 delivering them or having them delivered?  
3 A No, not at all.  
4 Q Okay. Sir, my final question: The jury  
5 heard the testimony of Mr. Steven Goldstone.  
6 You know who he is; right?  
7 A I know who he is, yes.

8 Q Without you and I debating what main man  
9 means.  
10 A Let's not do that.  
11 Q I think you now know what I mean by that;  
12 right?  
13 A Well, he's the head of RJR Nabisco.  
14 Q Okay. Would you agree with Mr. Goldstone,  
15 the head of RJR Nabisco, that the twisting  
16 of scientific facts --  
17 MR. WAGNER: Judge, I object again.  
18 It's improper to quiz a witness, interrogate  
19 a witness, about what some other witness  
20 said then ask him if he agrees with it.  
21 MR. MOTLEY: It's not some other  
22 witness. It's the number one man at RJR  
23 Nabisco.  
24 MR. WAGNER: It doesn't make any  
25 difference, Your Honor. It's improper.  
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1 THE COURT: I'll allow it. Go  
2 ahead.  
3 Q -- that the twisting of scientific facts is  
4 unforgivable. Do you agree with that?  
5 A Yes, I do.  
6 MR. MOTLEY: Dr. Ogden, it's a  
7 pleasure to meet you, sir, and I hope you  
8 get out of here before the snow starts  
9 coming down.  
10 THE WITNESS: So do I.  
11 THE COURT: Thank you, Mr. Motley.  
12 Mr. Furr, redirect?  
13 MR. FURR: Yes, Your Honor.

14 REDIRECT EXAMINATION

15 BY MR. FURR:

16 Q Dr. Ogden, are you a health scientist?  
17 A No, sir, I'm not.  
18 Q When is the last time that an employee in  
19 the RJ Reynolds Tobacco Company came to you  
20 and asked for your opinion on an issue  
21 involving smoking and health?  
22 A I can't remember any time that's ever  
23 happened.  
24 Q Do you consider yourself to hold expert  
25 opinions with respect to smoking and health,

OGDEN-REDIRECT

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1 including environmental tobacco smoke and  
2 health?  
3 A Not -- not in the relationship to health,  
4 no, certainly not.  
5 Q Are you a marketing expert, Dr. Ogden?  
6 A No, I'm not.  
7 Q Are you a cigarette design expert?  
8 A No, sir.  
9 Q You're a chemist; correct?  
10 A Correct.  
11 Q Dr. Ogden, you were asked a number of  
12 questions regarding the smoking and the  
13 generation of environmental tobacco smoke in  
14 different environments. Do you recall that?  
15 A I do.  
16 Q Dr. Ogden, to your knowledge, did Mrs. Wiley

17 work in a piano bar?  
18 A Nothing I reviewed indicated that she ever  
19 did, no.  
20 Q To your knowledge, did Mrs. Wiley work in  
21 meetings of Alcoholics Anonymous?  
22 A No. I don't recall any indication that she  
23 did.  
24 Q To your knowledge, did Mrs. Wiley work on an  
25 airplane?

OGDEN-REDIRECT

7130

1 A Not to my knowledge, no.  
2 Q To your knowledge, did Mrs. Wiley work in  
3 bingo halls?  
4 A No, I don't recall seeing that.  
5 Q To your knowledge, did Mrs. Wiley spend a  
6 considerable portion of her employment  
7 working in an elevator?  
8 A No. I don't think so.  
9 Q Let me hand you what's been marked as  
10 Defendants' Exhibit F1271, which is already  
11 in evidence, and ask you to a look at --  
12 first let me ask you to identify what this  
13 document is and then ask you to read 5C to  
14 the jury.  
15 A You asked me to identify it?  
16 Q Please.  
17 A It's a -- it's on letterhead, I guess,  
18 Veteran's Administration, Washington, D.C.,  
19 to Directors, All Field Activities, Subject:  
20 Smoking Policy in VA Health Care Facilities,  
21 dated October 20, 1977.  
22 Q Dated when?  
23 A October 20, 1977.  
24 Q And it's the VA smoking policy; correct?  
25 A It would appear to be, yes.

OGDEN-REDIRECT

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1 Q Would you read to the jury 5C, please.  
2 A 5C says, "Elevators: Smoking in elevator or  
3 carrying lighted smoking materials in an  
4 elevator is strictly prohibited. Signs and  
5 receptacles are located in elevator areas."  
6 Q Dr. Ogden, Mr. Motley asked you a series of  
7 questions regarding smoking rates during the  
8 time period of the 1960s. Do you recall  
9 that?  
10 A Yes, in general.  
11 Q And what information do you have available  
12 to you with respect to what Mrs. Wiley's ETS  
13 exposure would have been in the 1960s?  
14 MR. MOTLEY: Excuse me, Your Honor.  
15 May I have that question read back before he  
16 answers it.  
17 THE COURT: All right. You can  
18 read that question back, ma'am.  
19 (The requested material was read by the  
20 reporter.)  
21 THE COURT: Is there an objection?  
22 MR. MOTLEY: Your Honor, she was a  
23 missionary most of that time. I don't know  
24 what he's talking about now. I'm asking  
25 that there be a greater foundation or more

1 specific question.

2 THE COURT: Objection is overruled.  
3 You can answer that question.

4 A I'm trying to remember, looking at what I  
5 characterized as the physical evidence, and  
6 also reviewing the depositions and  
7 affidavits, the only thing I can recall that  
8 would be relevant to that would be the  
9 deposition of Mr. Wiley, who I believe said  
10 that prior to working at the VA Hospital,  
11 she had no ETS exposure.

12 Q Okay. Dr. Ogden, is RJ Reynolds Tobacco  
13 Company proud of the work that it has done  
14 in developing the new cigarette products,  
15 Eclipse and Premier?

16 A Yes, we are.

17 Q Dr. Ogden, what do you think Mr. Motley  
18 would be arguing here today if Reynolds had  
19 not developed new cigarette products like  
20 Eclipse and Premiere?

21 MR. MOTLEY: Objection, that's  
22 argumentative.

23 THE COURT: Sustained.

24 MR. MOTLEY: We have to argue about  
25 something.

1 MR. FURR: We know that.

2 Q Dr. Ogden, you were asked a lot of questions  
3 about active smoking and health; is that  
4 correct?

5 A I was, yes.

6 Q What is your understanding with respect to  
7 whether Mrs. Wiley was an active smoker?

8 A In all the reviewing of the testimonies and  
9 affidavits indicated that she had never  
10 smoked a cigarette.

11 Q You were asked a series of questions about  
12 hydrogen cyanide and mainstream and  
13 sidestream tobacco smoke. Do you recall  
14 that?

15 A I do, yes.

16 Q Dr. Ogden, to your knowledge, has hydrogen  
17 cyanide been measured in environmental  
18 tobacco smoke in real world environments?

19 A To my knowledge, no. It certainly does not  
20 meet the criteria of a good marker. But we  
21 have never measured it, and I'm not aware of  
22 any scientists certainly in the last 15  
23 years that have measured it.

24 Q You were also asked about hydrogen sulfide;  
25 do you recall that?

1 A Yes, I do.

2 Q To your knowledge, has hydrogen sulfide ever  
3 been measured in environmental tobacco smoke  
4 in real world situations?

5 A Not that I can recall, no.

6 Q You were asked some questions about the 16  
7 City study. Do you recall that?

8 A I do.  
9 Q And you were asked specifically about the  
10 selection of Dr. Roger Jenkins to be the  
11 principal investigator.  
12 A Right.  
13 Q Tell the jury why Dr. Jenkins was selected.  
14 A Well, I wouldn't quite even characterize it  
15 as he was selected. I remember there were  
16 suggestions among scientists about the size  
17 and the type of study that ought to be done,  
18 and a general question was being discussed  
19 of who in the world could coordinate and do  
20 such a study. And I only remember one name  
21 coming up and that was Dr. Jenkins at Oak  
22 Ridge; that he had the experience and the  
23 facilities, the sport staff at Oak Ridge,  
24 statisticians, et cetera, to be able to do a  
25 study of that magnitude.

OGDEN-REDIRECT

7135

1 Q And when would the evaluation of who should  
2 be principal investigator of the 16 City  
3 study have been made?  
4 A Certainly before the study began.  
5 Q 1990?  
6 A 199 -- I would say late '92, early '93,  
7 something like that.  
8 Q When that decision was made, were you aware  
9 of the difference of opinion that you and  
10 Dr. Jenkins have with respect to the utility  
11 of using cigarette equivalents?  
12 A Well, certainly he -- I was generally aware,  
13 yes. Even at that point of the, you know,  
14 some -- well, some difference of opinion  
15 among scientists as to how it should be used  
16 and how it should not be used.  
17 Q And it didn't prevent the selection of Dr.  
18 Jenkins to head up the study, did it?  
19 A Oh, no, certainly not.  
20 Q You were asked some questions about whether  
21 or not RJ Reynolds had ever used any of the  
22 technology that you brought in here and  
23 demonstrated to the jury to measure  
24 environmental tobacco smoke during the 1960s  
25 and 1970s. Do you recall that?

OGDEN-REDIRECT

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1 A I do.  
2 Q Was that technology available in the 1960s  
3 and 1970s?  
4 A No. None of the technology that I showed  
5 that was specifically for measuring ETS  
6 concentrations or exposures, that was not  
7 available prior to the 1980s.  
8 Q Dr. Ogden, how does the current marketing  
9 program for the Winston cigarette relate to  
10 Mrs. Wiley's environmental tobacco smoke  
11 exposures between 1973 and 1991?  
12 A It's not obvious to me that it does relate.  
13 MR. MOTLEY: Excuse me, Your Honor,  
14 can I have that again, the question?  
15 (The requested material was read by the  
16 reporter.)



17 MR. MOTLEY: Now he's trying to ask  
18 the witness to overrule Your Honor to a  
19 legal objection about the relevance of it.  
20 MR. FURR: I asked him how he views  
21 it in his opinion.  
22 THE COURT: Go ahead.  
23 MR. MOTLEY: What I'm saying, Your  
24 Honor, is he's now asking this witness to  
25 make a judgment about relevancy of an item

OGDEN-REDIRECT

7137

1 of evidence that Your Honor has already  
2 overruled an objection to. Your Honor  
3 decides what's relevant; not him.  
4 MR. FURR: Of course that's not  
5 what I'm asking, Your Honor. There's a  
6 number of issues in this case which evidence  
7 may be relevant. I'm asking this witness  
8 whether or not that evidence is relevant to  
9 what he came here to testify about today.  
10 MR. MOTLEY: Well, I think that's  
11 for the jury to decide.  
12 THE COURT: Make your question a  
13 little bit more specific.  
14 Q Dr. Ogden, in reaching your opinions with  
15 respect to Mrs. Wiley's environmental  
16 tobacco smoke exposures between 1973 and  
17 1991, how did you consider the Winston  
18 marketing program that's currently being  
19 run?  
20 A I didn't because it's not relevant.  
21 Q Dr. Ogden, you were asked some questions --  
22 MR. MOTLEY: Objection. I believe,  
23 Your Honor, to the witness' statement of  
24 relevance. No, I'm just teasing. I don't  
25 care.

OGDEN-REDIRECT

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1 Q You were asked some questions about the  
2 Eclipse marketing program and whether or not  
3 smoking cigarettes indoors produces -- can  
4 produce staining of materials contained in a  
5 home. Do you recall that?  
6 A Generally speaking, yes.  
7 Q Is the fact that environmental tobacco smoke  
8 indoors can stain -- let me start again.  
9 Does the fact that environmental  
10 tobacco smoke indoors can stain materials  
11 contained indoors change your opinions with  
12 respect to Mrs. Wiley's environmental  
13 tobacco smoke exposure?  
14 A No. Because the issue is really exposure.  
15 The fact that a curtain may have gotten  
16 stained or a wall may have gotten stained  
17 after years of smoking in a home or  
18 wherever, doesn't change the scientific  
19 assessment of the physical evidence that,  
20 you know, that talks about number of smokers  
21 and how much smoke might have been in the  
22 air. So there's no way I can use a stain on  
23 the wall as a marker for ETS, for example.  
24 That's never been proposed and wouldn't  
25 work. It's not relevant there.

- 1 Q Dr. Ogden, we saw some clips from  
2 Casablanca, the Odd Couple, and Clean and  
3 Sober. Do you recall that?  
4 A I do, yes.  
5 Q How did you consider that information as you  
6 developed your opinions with respect to  
7 Mrs. Wiley's environmental tobacco smoke  
8 exposure?  
9 A Prior to coming in here today, I never  
10 considered them at all.  
11 Q Has it changed your opinion?  
12 A No, not at all.  
13 Q Why not?  
14 A Well, in any scenario, whether it's a smoky  
15 bar or Hollywood movie, certainly there are  
16 people, myself included, who have seen smoke  
17 in the air. That's not what I was trying to  
18 do in this case.  
19 What I was trying to do was to put  
20 together in a scientific way the best  
21 available evidence that described her work  
22 environment and how many smokers there might  
23 have been, all the things I described  
24 earlier, how many cigarettes might have been  
25 smoked, put that in context with the

OGDEN-REDIRECT

- 1 measurements that I had made over the last  
2 10 or 12 years, and try to come to some  
3 understanding of how her exposure would  
4 compare to places where I have measured, and  
5 a Hollywood production doesn't help me do  
6 that.  
7 Q Okay. Dr. Ogden, do you still have  
8 Plaintiffs' Exhibit 3285 up there?  
9 A I'm sure I do.  
10 Q Let me hand you mine. It will be quicker.  
11 You were asked some questions about that  
12 document, which I believe was described as  
13 at least a portion of the protocol for a  
14 study that was going to be conducted which  
15 would include the assessment of certain end  
16 points involving children. Do you recall  
17 that?  
18 A I recall that, yes.  
19 Q Did you testify that there was a medical  
20 school involved in performing that study?  
21 A Well, again, I'm not sure exactly what study  
22 this relates to. I offered testimony in a  
23 generic fashion, that I was aware of a  
24 research study that was conducted by a  
25 medical school looking at asthmatic children

OGDEN-REDIRECT

- 1 as one of the potential end points, yes.  
2 Q Do you know what medical school that was?  
3 A I do.  
4 Q What was it?  
5 A Tulane University.  
6 Q Let me see if you can find Plaintiffs'  
7 Exhibit 3332, which was one of the last

8 documents that Mr. Motley showed you.  
9 A I've got it.  
10 Q Now, Mr. Motley asked you some questions  
11 about certain statements contained in this  
12 document with respect to the utility of  
13 using cigarette equivalents to describe the  
14 environmental tobacco smoke exposure of  
15 nonsmokers. Do you recall that?  
16 A I do, yes.  
17 Q Does anything in this document change your  
18 opinions with respect to the utility of  
19 using cigarette equivalents?  
20 A Well, I'm not sure whether I'm supposed to  
21 answer first and then explain or does it  
22 matter?  
23 No, it doesn't. May I explain that a  
24 little bit?  
25 Q Go ahead.

OGDEN-REDIRECT

7142

1 A Some of the concerns that are outlined here  
2 in 1986 are the very same concerns that I  
3 outlined in the paper that I published last  
4 year. So I'm certainly aware of that.  
5 What I've done is to use my experience  
6 and my training to try to move cigarette  
7 equivalents forward, and basically to state  
8 what I believe, as a scientist, it's useful  
9 for and what it's not useful for.  
10 And I've come to some of the same  
11 conclusions. It's not useful for  
12 everything, but as a way of conceptualizing  
13 exposure to non-scientists, it's -- as that  
14 paper shows, it's been used by over 40  
15 scientists over the last 25 years, and it's  
16 still used today, so it has value, yes. But  
17 nothing here changes my opinion on cigarette  
18 equivalents.  
19 Q Dr. Ogden, this document was produced, as  
20 Mr. Motley stated, by a contractor to the  
21 Tobacco Institute. Is that correct? That  
22 would be in the acknowledgment.  
23 A That appears to be what the acknowledgment  
24 says, yes.  
25 Q On the front page, is it stated as to whom

OGDEN-REDIRECT

7143

1 the actual scientists were and what their  
2 affiliations were that produced this  
3 document?  
4 A There are four scientists -- yes, there are  
5 four scientists listed here.  
6 Q Would you tell the jury who those people  
7 are.  
8 A You just want names or affiliations?  
9 Q Names and affiliations.  
10 A Nancy Balter, Ph.D., Department of Biology,  
11 Georgetown University, Washington, D.C.; S.  
12 James Kilpatrick, Ph.D., Department of  
13 Biostatistics, Medical College of Virginia,  
14 Richmond, Virginia; Philip Witorsch, M.D.,  
15 Department of Medicine, George Washington  
16 University, Washington D.C.; Sorell L.

17 Schwartz, Ph.D., Department of Pharmacology,  
18 Georgetown University, Washington, D.C.  
19 Q Okay. What's the title of this document?  
20 A "Causal Relationship Between Environmental  
21 Tobacco Smoke and Lung Cancer in Nonsmokers:  
22 A Critical Review of the Literature."  
23 Q Would you take a look at the bottom of the  
24 cover page.  
25 A I see that.

OGDEN-REDIRECT

7144

1 Q And tell us the date that appears.  
2 A Well, it says final version submitted April  
3 11, 1986.  
4 Q And below that it says "Tentatively accepted  
5 for publication in the Journal of the Air  
6 Pollution Control Association." Do you see  
7 that?  
8 A I do.  
9 Q What do you understand that to mean?  
10 A That "tentatively" throws me off there. But  
11 generally, that would suggest to me that it  
12 either has been approved or very nearly  
13 approved for publication in that journal.  
14 Q Now I'd like for you to turn to the last  
15 page of the text of this article.  
16 A Okay.  
17 Q See the conclusion section?  
18 A I do.  
19 Q Read that conclusion, then I want to ask you  
20 a question, okay?  
21 A Want me to read it to myself?  
22 Q No. I'll read it to you first. "The  
23 epidemiologic data concerning any cause and  
24 effect relationship between ETS and lung  
25 cancer is at best equivocal. The most

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1 persistent weakness is the absence of  
2 adequate exposure information. This  
3 precludes the evaluation of dose-response  
4 relationships, a critical element of the  
5 test for causality. Moreover, problems of  
6 sampling bias and misclassification  
7 complicate interpretation of studies done  
8 today."  
9 See that there?  
10 A I do, yes.  
11 Q Did I read that correctly, Dr. Ogden?  
12 A Yes, you did.  
13 MR. FURR: Thank you. That's all I  
14 have, Your Honor.  
15 THE COURT: Thank you, Mr. Furr.  
16 Mr. Motley, recross.  
17 MR. MOTLEY: Briefly, Your Honor.

18 RECROSS-EXAMINATION

19 BY MR. MOTLEY:

20 Q Sir, on this issue of relevance, don't you  
21 think, sir, that if there's an issue in this  
22 case about what's in smoke that people  
23 breathe environmentally, what's in it, what  
24 it's composed of, that whether or not  
25 cigarettes have additives in it is important

1 to understand at least one aspect of what's  
2 in the smoke?  
3 A You're asking me is that relevant to gauging  
4 what the exposure might have been at the VA  
5 Hospital?  
6 Q Let's do it this way. Are you aware that --  
7 I'll just ask you to assume the testimony in  
8 this case that cocoa and licorice are  
9 contained as additives in many cigarettes.  
10 Are you aware of that?  
11 A Cocoa, yes. I'm not sure about licorice.  
12 Q Then if you're sure about cocoa, when cocoa  
13 is heated up to 1,000 degrees Fahrenheit, it  
14 gives off carcinogens; are you aware of  
15 that?  
16 A I'm not surprised by that.  
17 Q You're not. Don't you think if your  
18 cigarettes had cocoa in it before this No  
19 Bull campaign came up, that it's relevant to  
20 whether cocoa let's off carcinogens or not?  
21 A No, sir, I don't see how it is.  
22 Q You don't see that relevance?  
23 A No, I don't.  
24 Q Okay. Now, with respect to Mr. Wiley's  
25 testimony, did you look at his trial

1 transcript, sir?  
2 A No, I didn't.  
3 Q You don't know what he said in this trial,  
4 do you?  
5 A No, sir.  
6 Q Are you unaware, sir, that then, I take it,  
7 that he testified that Mrs. Wiley was  
8 exposed to smoke in various hospitals before  
9 she got to the VA?  
10 MR. FURR: Your Honor, I don't have  
11 an objection to the question, but I do think  
12 the jury should be instructed it would have  
13 been improper for Dr. Ogden to --  
14 MR. MOTLEY: Your Honor, I'm not  
15 suggesting --  
16 MR. FURR: Let's make sure everyone  
17 is clear on that.  
18 MR. MOTLEY: I'm not suggesting,  
19 Your Honor, it was improper.  
20 THE COURT: All right.  
21 Q But you just don't know that Mr. Wiley sat  
22 down here as the first witness and told the  
23 jury that his wife was exposed from the  
24 whole time he knew her to cigarette smoking  
25 in hospitals, do you?

1 MR. WAGNER: That's an improper  
2 characterization of that testimony, Your  
3 Honor. I object.  
4 MR. MOTLEY: I have it right here.  
5 I have it right here.  
6 MR. WAGNER: I can almost recite  
7 the question and the answer from memory,

8 Your Honor.  
9 THE COURT: Make your question  
10 specific, Mr. Motley.  
11 MR. MOTLEY: I will.  
12 Q That Mr. Wiley was asked on those occasions  
13 in all those other hospitals -- all those  
14 other hospitals, right here in this room --  
15 MR. WAGNER: Judge, I object to the  
16 phrasing of the question. Just read the  
17 question to him.  
18 THE COURT: Go ahead.  
19 Q All those other hospitals, and he had  
20 described where all she had worked, in  
21 Oregon, at Ball Memorial -- did you know she  
22 worked in Oregon?  
23 A I don't remember that, no.  
24 Q Okay. Did you know she worked at Ball  
25 Memorial Hospital?

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1 A I read the deposition of Mr. Wiley. And to  
2 the extent that --  
3 Q I didn't ask you about the deposition.  
4 We're talking about what he testified right  
5 here in front of this jury.  
6 MR. FURR: Just a minute, Your  
7 Honor. He's responding to the question as  
8 to what knowledge he had relevant to the  
9 specific question he was asked, and he read  
10 the deposition. I think he's entitled to  
11 answer the question.  
12 THE COURT: Read your question, if  
13 you have a question.  
14 Q You're unaware that Mr. Wiley testified  
15 right here in this courtroom in front of  
16 this jury, first witness in this case, that  
17 the hospitals that she worked in before she  
18 got to the VA, she was exposed to people  
19 smoking in her vicinity the entire time.  
20 MR. WAGNER: Judge.  
21 A Of course, I'm unaware of that.  
22 Q You're unaware of that?  
23 A I was operating under the Court order of  
24 separation of witnesses. I don't know what  
25 any witness said in this case.

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1 Q So you are unaware of that testimony?  
2 That's my only question.  
3 A Yes, I am. That's correct.  
4 Q Your measurements that you began taking with  
5 these instruments and the ones that have  
6 been improved over time were of conditions  
7 that existed after 1986; correct?  
8 A No. I'm not sure that's correct.  
9 Q Well, when did you start with the company?  
10 A You're asking me personally now or RJ  
11 Reynolds?  
12 Q I just asked you personally.  
13 A You've been using me and RJ Reynolds  
14 interchangeably. I just want to make sure I  
15 understand your question.  
16 Q I'm talking about you.

17 A My first measurements that I was involved in  
18 were in 1985.  
19 Q 1985?  
20 A Right.  
21 Q And they were of conditions that existed in  
22 1985; correct?  
23 A Sure.  
24 Q And you told OSHA, and you told this jury,  
25 that conditions were smokier in the '60s and

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1 '70s, didn't you?  
2 A No, that's not what I said.  
3 Q Well you didn't -- do you want me to show  
4 you what you said to OSHA again?  
5 A Yes, please, because I told you then you  
6 misrepresented it, and you didn't allow me  
7 to explain it.  
8 MR. WAGNER: Judge, this is  
9 repetitive. We've been through this once.  
10 THE COURT: I thought we went  
11 through this this morning.  
12 MR. MOTLEY: We did. Now, he's  
13 claiming he didn't say it.  
14 THE COURT: We've heard it once.  
15 We've heard it once. That's enough. Let's  
16 move on.  
17 BY MR. MOTLEY:  
18 Q Did you testify at the OSHA hearing, sir?  
19 MR. WAGNER: Judge, Your Honor just  
20 ruled.  
21 MR. FURR: You told him to move on.  
22 THE COURT: We've heard this once.  
23 MR. MOTLEY: Different issue, Your  
24 Honor.  
25 THE COURT: This is different?

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1 MR. MOTLEY: Yes, sir.  
2 Q Did you testify at OSHA hearings?  
3 A I did, yes.  
4 Q Did you testify about your personal  
5 experience?  
6 A I sure did.  
7 Q Did you testify about what you knew from the  
8 literature and about smoking habits prior to  
9 that time? Yes or no?  
10 A I don't know that I did in that context.  
11 MR. MOTLEY: Your Honor, I have a  
12 motion to make when the witness is gone. I  
13 don't need to make it now.  
14 THE COURT: All right.  
15 Q Final question, sir: When you indicated --  
16 final two questions -- about the elevator  
17 policy, what was the date of that?  
18 A I can look it up again.  
19 Q It was 1977; correct?  
20 A I can look it up. I assume '76 or '77. I'm  
21 not sure which.  
22 Q All right. And are you unaware of whether  
23 or not Mildred Wiley was ever exposed to  
24 secondhand smoke while flying on airplanes?  
25 A I have a general recollection from

1 Mr. Wiley's deposition that I believe she  
2 was not, but I don't -- any other  
3 information I don't have.  
4 Q You don't know what was testified here in  
5 this courtroom?  
6 A No, sir, I don't.  
7 MR. MOTLEY: That's all I have.  
8 Your Honor. I have one matter I want to  
9 address after the witness leaves.  
10 MR. FURR: Your Honor, if it  
11 relates to the witness, perhaps we ought to  
12 discuss it before he's excused.  
13 MR. MOTLEY: No, it doesn't have  
14 anything to do with any testimony.  
15 MR. WAGNER: I also have a matter,  
16 Your Honor.  
17 THE COURT: Doctor, I believe you  
18 may step down. Thanks for coming to  
19 Indiana.  
20 THE WITNESS: Thank you.  
21 THE COURT: Need to approach,  
22 Counsel?  
23 (Bench discussion)  
24 THE COURT: Ladies and gentlemen,  
25 the next witness will be called. We need

1 about ten minutes, though, before we do  
2 that. He's going to be fairly lengthy, so I  
3 think we'll take a break at this point.  
4 Remember, don't talk among yourselves about  
5 the case.  
6 (Standard admonition)  
7 MR. CASSELL: All rise.  
8 THE COURT: Jury is not present.  
9 Is that 88, Counselor?  
10 MR. WAGNER: Your Honor --  
11 Mr. Cassell, what is the number of this?  
12 THE COURT: Annual report  
13 transcript.  
14 MR. OHLEMEYER: Annual meeting,  
15 Your Honor.  
16 MR. CASSELL: 87.  
17 THE COURT: For the record, a  
18 portion of Exhibit 87 was handed to the  
19 jury.  
20 You have an objection, Mr. Wagner?  
21 MR. WAGNER: Yes, Your Honor. I  
22 ask that I have a motion, I believe, since  
23 Your Honor admitted this document into  
24 evidence.  
25 THE COURT: All right.

1 MR. WAGNER: Your Honor, this is in  
2 reference to what has been admitted as  
3 Plaintiffs' Exhibit 87, and I've given Your  
4 Honor a copy of the excerpt from this  
5 exhibit that was passed to the jury.  
6 THE COURT: Right. Page 60, 61 and  
7 62.



8 MR. WAGNER: Right. And at the  
9 bench conference, which was about whether or  
10 not Mr. Motley could ask the witness, or  
11 paraphrase or quote from page 58, which was  
12 a question posed to the chairman at the  
13 meeting, page 58 of Exhibit 87, which was a  
14 question posed by Ms. Donley to the  
15 chairman, and Mr. -- and Your Honor ruled  
16 that he could not do that, and he was  
17 allowed then to read the answer of the  
18 chairman which begins at page 60 to the  
19 jury.

20 Now, what the plaintiff and Mr. Motley  
21 passed to the jury were excerpts which also  
22 included the material at pages 61, beginning  
23 at page 61, which I highlighted for Your  
24 Honor, over to the end of page 62 of that  
25 same exhibit, No. 87.

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1 And in there is a dialogue which occurs  
2 with a priest, apparently, a Father Crosby,  
3 who talks about people clapping at what he  
4 just said. "That children will crawl out of  
5 a room and will have to wait until they  
6 crawl --"

7 He says that's insensitive. He thinks  
8 "that's terribly insensitive that the  
9 shareholders would clap at a statement like  
10 that. I don't want to do a guilt thing, but  
11 it really is a disappointing thing. You  
12 might disagree, but children should not have  
13 to take in other people's smoke. We don't  
14 need it and we can walk out; a child can't."  
15 It goes on and on in that vein down to the  
16 bottom of page 62.

17 Now, Your Honor, that's the same kind  
18 of dialogue that Your Honor said Mr. Motley  
19 could not ask the witness about. But Mr.  
20 Motley slipped this to the jury in the  
21 excerpt from this Exhibit 87, and the jury  
22 read the entire document.

23 Now, I have two motions to make.

24 THE COURT: All right.

25 MR. WAGNER: The first motion is

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1 that Your Honor should instruct the jury,  
2 when the jury returns, that that material  
3 should not have been given to them by Mr.  
4 Motley, that they are to disregard it, that  
5 Mr. Motley is admonished by the Court for  
6 having done something that was in spirit, if  
7 not in letter, in direct conflict with Your  
8 Honor's ruling.

9 Subject to Your Honor not giving that  
10 instruction to the jury, I move for a  
11 mistrial on those grounds.

12 THE COURT: All right.

13 MR. MOTLEY: May I respond, Your  
14 Honor?

15 THE COURT: Certainly.

16 MR. MOTLEY: First place, nobody

17 objected to page 62, and I have no  
18 objection, Your Honor. My only point was  
19 the point I was making which was the answer  
20 to a question. I have my objection to the  
21 page from the document being expurgated from  
22 page 61 where Father Crosby begins his talk  
23 over to page 62, because my point was simply  
24 to hand a complete transcript.

25 Your Honor, they never objected at the  
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1 bench. The case of Bower vs. Bower, 146  
2 Indiana 393, makes Counsel has the  
3 obligation to make a motion to strike  
4 something from the record while the witness  
5 is still here during cross-exam. He made  
6 nation such motion with respect to No. 62.

7 His request that I be admonished for  
8 doing something he failed to object to is  
9 rather unusual. And, Your Honor, his  
10 statement that the jury read the entire  
11 document, that's his observation based only  
12 upon his statement standing up here. I was  
13 busy with the witness. I don't know whether  
14 the jury read the whole document or not.  
15 But there's certainly no basis here for a  
16 mistrial or an admonition or anything else.

17 If counsel wants to cure the Father's  
18 rhetoric and Mr. -- the Father's rhetorical  
19 question, and the chairman's rhetorical  
20 response to it, in other words, Father  
21 Crosby's characterization of the chairman's  
22 answer, which I'm not interested in  
23 presenting to the jury, and the chairman's  
24 response to the Father's accusation, I'm  
25 perfectly happy to have that go out, along

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1 with any other things in that document, Your  
2 Honor, of a similar nature.

3 We were up at the, up at Your Honor's  
4 bench. They raised the objection to page  
5 58. Your Honor told the witness not to read  
6 page 58 out loud, but read it to himself so  
7 he would have the context of the question.  
8 If you recall, I was required to lay a  
9 foundation as to whether or not this dealt  
10 with ETS. And the way to understand  
11 Mr. Harper's response was to read  
12 Ms. Donley's question. The question was not  
13 presented to the jury on page 58. I don't  
14 know how Mr. Wagner would know that the jury  
15 read the question on page 62 or not.

16 But in any event, the cure for any of  
17 that, if there's anything to be cured, would  
18 be to remove from page 62 of the transcript,  
19 when the jury gets it, the priest's  
20 rhetorical characterization and the  
21 chairman's rhetorical response, because all  
22 I'm interested in is the fact that the  
23 question was asked, and Harper's response,  
24 and Your Honor allowed that in over  
25 objection, which we argued at great length.

1 The answer on page 60 and 61.

2 THE COURT: Mr. Wagner, this entire  
3 document was admitted into evidence.

4 MR. WAGNER: Yes, sir, it was,  
5 over --

6 THE COURT: Over objection. This  
7 jury could have sat right here and read this  
8 entire document today.

9 MR. WAGNER: Yes, sir.

10 THE COURT: You agree with that?

11 MR. WAGNER: Yes, sir, as I  
12 understand the laws of evidence, and  
13 although in this trial, of course, as Your  
14 Honor knows, we've been publishing, or  
15 plaintiffs have simply been publishing  
16 sometimes excerpts from exhibits as opposed  
17 to reading the entire document.

18 THE COURT: That doesn't mean the  
19 entire document is not in evidence.

20 MR. WAGNER: I don't quarrel with  
21 that, Your Honor.

22 THE COURT: At the bench  
23 conference, my recollection is I asked  
24 Mr. Motley what pages he would refer to and  
25 he would display to the jury, and he

1 indicated 60, 61, 62; is that your  
2 recollection?

3 MR. WAGNER: Yes, sir, that is my  
4 recollection. However, in the context of  
5 the discussion that we were having at that  
6 time, Mr. Motley, prior to the time we  
7 approached the bench, had wanted to read to  
8 the witness and out loud the material that  
9 began at page 58 with the question from  
10 Ms. Donley. And that was the focus, Your  
11 Honor, of my objection and our objection and  
12 Your Honor sustained that.

13 Now, we did not know -- I did not know  
14 what had been passed to the jury. In fact,  
15 Mr. Motley and the other plaintiffs' counsel  
16 who were at the bench said that Ms. Donley's  
17 questions, which began at page 58, were not  
18 in what was being published and passed to  
19 the jury. I mean, I'm sure Your Honor will  
20 recall that. You said, well, okay, that's  
21 fine, but he can't read it out loud to the  
22 witness either.

23 THE COURT: And he didn't.

24 MR. WAGNER: And Your Honor  
25 sustained that objection and that didn't

1 happen.

2 THE COURT: You're right.

3 MR. WAGNER: But now what has  
4 happened, as I found out after I went up and  
5 retrieved a copy of what had been passed to  
6 the jury, is exactly the same sort of  
7 question was passed to the jury in the form

8 of the material beginning at pages 61 from  
9 the question from Father Crosby, which I  
10 just outlined.  
11 THE COURT: And that is precisely  
12 what Mr. Motley told us at the bench  
13 conference what would be passed to the jury.  
14 MR. MOTLEY: Your Honor, for the  
15 record, before we even walked up to the  
16 bench conference, I told the counsel,  
17 including Mr. Wagner, who was sitting there,  
18 they asked me, what pages I was handing to  
19 the jury, and I told them on the record what  
20 the page numbers were.  
21 MR. WAGNER: I can only say, Your  
22 Honor, I did not see what was passed to the  
23 jury. It was my understanding that the  
24 question that Your Honor sustained wasn't  
25 being passed to the jury. And it was my  
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1 understanding, at least from -- at least the  
2 spirit of what was being argued and what was  
3 being passed to the jury, that no  
4 objectionable material of the kind that Your  
5 Honor had sustained my objection to was  
6 being passed to the jury either.  
7 But having gotten a copy from  
8 Mr. Cassell as to what was passed to the  
9 jury, I then discovered that they gave the  
10 jury the same material that Your Honor had  
11 sustained an objection to only from a  
12 different questioner, Father Crosby.  
13 MR. MOTLEY: I don't think it's  
14 fair to say that's the same.  
15 THE COURT: All right. Thank you,  
16 Mr. Wagner.  
17 Mr. Wagner, is your motion for mistrial  
18 made on behalf of all defendants?  
19 MR. WAGNER: I'm just making it on  
20 behalf of RJ Reynolds Tobacco Company, RJ  
21 Nabisco Holdings Corporation, Your Honor.  
22 THE COURT: Is Mr. Ohlemeyer here?  
23 MR. OHLEMEYER: Yes, I am, Your  
24 Honor.  
25 THE COURT: Is that made on behalf  
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1 of your clients, Counselor?  
2 MR. OHLEMEYER: Yes, it is, Your  
3 Honor.  
4 THE COURT: All right.  
5 MR. OHLEMEYER: In light of the  
6 plaintiffs' conspiracy claim and their  
7 eventual argument to the jury that evidence  
8 admitted against one company is going to be  
9 used against all companies, I think it would  
10 be.  
11 THE COURT: Any defendants except  
12 from that motion?  
13 MR. SHOCKLEY: I didn't understand  
14 the form of your question, Your Honor.  
15 THE COURT: I didn't make that  
16 question.

17 MR. SHOCKLEY: Let me put it  
18 different. American Brands would join in  
19 the motion.  
20 THE COURT: Thank you.  
21 MR. SCHEINER: CTR will join in the  
22 motion for the record.  
23 THE COURT: All right.  
24 Any defendants do not join in the  
25 motion? Otherwise Court will assume it's

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1 made on behalf of all defendants.  
2 Court notes no defendants do not join  
3 in the motion, do not except to the motion.  
4 First of all, the motion for the jury  
5 to disregard, as I pointed out at the  
6 argument, Mr. Motley stated the pages that  
7 would be handed to the jury, as I indicated  
8 on the record after they were displayed to  
9 the jury, those, in fact, were the pages  
10 that were handed to the jury along with the  
11 cover page. There was no objection to those  
12 precise pages, and for the record that is  
13 60, 61 and 62. The motion for the jury to  
14 disregard that is not well taken and denied.  
15 Motion for admonishment because of my  
16 prior ruling, the motion is denied.  
17 Motion for mistrial made on behalf of  
18 all defendants is not well taken and is  
19 ordered denied.  
20 We'll break for ten minutes.  
21 (A brief recess was taken.)  
22 MR. CASSELL: All rise.  
23 THE COURT: Be seated. Jury back  
24 with alternates.  
25 Mr. Furr, call your next witness.

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1 MR. FURR: Yes, Your Honor, the  
2 defense calls Dr. Paul Levy.  
3 THE COURT: Good afternoon.  
4 THE WITNESS: Good afternoon, sir.  
5 Raise your right hand, please.  
6 DEFENDANTS' WITNESS, PAUL LEVY, SWORN  
7 THE COURT: Would you have a seat  
8 right over there, please. Would you tell  
9 this jury your name.  
10 THE WITNESS: Paul Levy.  
11 THE COURT: And spell your last.  
12 THE WITNESS: L-E-V-Y.  
13 THE COURT: I think if you pull the  
14 chair just a little closer, you won't have  
15 to lean forward.  
16 THE WITNESS: I don't think it's  
17 working.  
18 THE COURT: Yes, it is. You're  
19 fine. Thank you.  
20 Mr. Furr.  
21 MR. FURR: Thank you. Can we  
22 approach for five seconds? I would like to  
23 inform the Court of something.  
24 THE COURT: All right.  
25 (Bench discussion)

1 THE COURT: Mr. Furr.  
2 MR. FURR: Thank you, Your Honor.  
3 DIRECT EXAMINATION  
4 BY MR. FURR:  
5 Q Good afternoon, Dr. Levy?  
6 A Good afternoon, Mr. Furr.  
7 Q That you for being so patient with us.  
8 A No problem.  
9 Q Would you please tell the jury what your  
10 occupation is.  
11 A I'm Professor of Epidemiology and  
12 Biostatistics at University of  
13 Illinois-Chicago.  
14 Q You're an epidemiologist, sir; is that  
15 correct?  
16 A Yes, sir.  
17 Q And are you also a biostatistician?  
18 A Yes, sir.  
19 Q How long have you been a professor at the  
20 University of Illinois in Chicago?  
21 A Since 1972.  
22 Q So that would be 26 years?  
23 A Twenty-six years. I was away for a year at  
24 the University of Massachusetts, so I just  
25 received my 25-year award.

1 Q Twenty-five years.  
2 A Yes.  
3 Q And you're a professor in the University of  
4 Illinois School of Public Health; is that  
5 correct?  
6 A Yes.  
7 Q Would you explain to the jury what the  
8 mission is of the School of Public Health.  
9 A The mission of the School of Public Health  
10 is basically to teach students to do  
11 research, to collaborate with health  
12 officials on matters dealing with the health  
13 of the community and the nation as a whole,  
14 and I guess the world as a whole.  
15 In Illinois we concentrate on the  
16 regional area, Chicago and down state  
17 Illinois. We're the only accredited public  
18 health in Illinois.  
19 Q What types of students are taught in the  
20 school?  
21 A Graduate students. Students getting a  
22 professional master's degree, Master's of  
23 Public Health, which is sort of the public  
24 health equivalent of the Master of Business  
25 Administration. It's a professional

1 master's. People that are in that degree  
2 are generally physicians, nurses, health  
3 administrators, people who are making  
4 careers out of public health.  
5 Q Is the University of Illinois School of  
6 Public Health an accredited school?  
7 A Yes. As I mentioned earlier, it's the only

8 accredited School of Public Health in  
9 Illinois.  
10 Q How many accredited schools of public health  
11 are there in the country?  
12 A When I started, there was about 20. There  
13 are about, I would guess around 30  
14 accredited schools of public health.  
15 Q Okay. I would like for you to walk through  
16 with the jury your career at the University  
17 of Illinois. You first became a professor  
18 in 1972; is that correct?  
19 A That's correct.  
20 Q And you became a full professor in 1976?  
21 A Correct.  
22 Q And In 1979 you became the Director of the  
23 Division of Epidemiology and Biostatistics?  
24 A Correct.  
25 Q How long were you the director of that

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1 division, Dr. Levy?  
2 A Approximately 18 years, until June of this  
3 year.  
4 Q While you were Director of the Division of  
5 Epidemiology and Biostatistics, what were  
6 your major duties and responsibilities?  
7 A Well, my major duties were to preside over a  
8 division that grew rapidly to about 16  
9 faculty members, about 100 students, and a  
10 budget of about \$4 million per year, a lot  
11 of it in externally funded research, so we  
12 presided over a pretty large program of  
13 research, teaching, service to the  
14 community, consulting. We grew very  
15 quickly.  
16 Q With respect to you personally, Doctor, I  
17 take it that during those 18 years, you  
18 would have had administrative duties?  
19 A Yes, I did.  
20 Q Did you also teach during those 18 years?  
21 A Yes. I taught and developed curriculum.  
22 Q Did you also conduct research yourself  
23 during those 18 years?  
24 A Yes, I did.  
25 Q Now, when you tell us that you were the

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1 Director of the Division of Biostatistics  
2 and Epidemiology, where does that fit into  
3 the academic hierarchy? Is that like being  
4 the dean, or how can you explain that to us?  
5 A I reported to the Dean of the School of  
6 Public Health. I was the equivalent of a  
7 department chairman of a fairly large  
8 department in a graduate school.  
9 Q Now, you're no longer the director of the  
10 division, I take it?  
11 A No, I'm not.  
12 Q When did you resign?  
13 A June of this year.  
14 Q And why was that?  
15 A I wanted to spend approximately the last ten  
16 years of my career doing some research,

17 doing less administration, developing some  
18 new courses, doing something other than a  
19 primarily administrative managerial job. I  
20 wanted to do some more research and  
21 teaching.

22 Q Dr. Levy, we have had a number of witnesses  
23 talk to us about epidemiology, but you're  
24 the first full-time epidemiologist that has  
25 been here, so I want to ask you a few basic

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1 questions, if I could.

2 A Fine.

3 Q Let's start with you defining for the jury  
4 what epidemiology means, please.

5 A Well, the usual definition of epidemiology  
6 is that it's the study of the distribution  
7 and determinants of diseases in human  
8 populations. And what that means is it's  
9 the discipline that deals with who gets  
10 diseases and why they get them. And by the  
11 term "why they get them," what exposures in  
12 relation to their lifestyle, in relation to  
13 their environment make them more or less  
14 susceptible to the occurrence of certain  
15 diseases.

16 Q Dr. Levy, how does one become an  
17 epidemiologist?

18 A How does one --

19 Q Become an epidemiologist.

20 A There are several avenues. One way is if  
21 you were a physician and you had an interest  
22 less in clinical work than in doing research  
23 and population type of research, one could  
24 become an epidemiologist by taking --  
25 getting a Master of Public Health Degree

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1 with a concentration in epidemiology. The  
2 same if you were another type of health  
3 professional, such as a nurse or an  
4 environmental scientist, one could get an  
5 MPH in epidemiology.

6 If you had no previous professional  
7 degree, you could get -- we give a Ph.D. and  
8 a master's, an academic master's, in  
9 epidemiology at our school and at all the  
10 other schools of public health.

11 Also, one of the -- I got into  
12 epidemiology, I got a doctorate in  
13 biostatistics and then had been at the  
14 Centers for Disease Control doing practical  
15 epidemiology and got more and more  
16 interested in epidemiology, did  
17 epidemiological studies, and became a fellow  
18 of the American College of Epidemiology.

19 Q Dr. Levy, I believe you just stated that you  
20 had some training at the Centers for Disease  
21 Control; is that correct?

22 A Yes. In 1960 I was a Public Health Service  
23 officer, U.S. Public Health Service, and  
24 spent two years in the epidemiology division  
25 of the Centers for Disease Control in



- 1 Atlanta.
- 2 Q Would you explain what the Centers for
- 3 Disease Control is.
- 4 A It's a very large agency that looks at --
- 5 that does, among other things, it's
- 6 responsible for the study of -- to deal with
- 7 epidemics, to deal -- both infectious
- 8 disease, environmental epidemics --
- 9 environmentally-caused outbreaks of things.
- 10 It's a major agency that deals with
- 11 primarily epidemiological work.
- 12 Q Dr. Levy, is it possible to become certified
- 13 in the field of epidemiology?
- 14 A Yes, it is.
- 15 Q And how does that occur?
- 16 A There's a College of Epidemiology, American
- 17 College of Epidemiology, that certifies
- 18 people. One can apply to be certified.
- 19 There used to be an examination, but they no
- 20 longer do that. If one has the proper
- 21 credentials, such as being a physician with
- 22 a Master of Public Health Degree, or another
- 23 type of bioscientist like, say, a molecular
- 24 biologist with publications in epidemiology,
- 25 one's credentials are evaluated, and one

- 1 becomes a member or a fellow of the American
- 2 College of Epidemiology.
- 3 Q Dr. Levy, are you, in fact, certified as an
- 4 epidemiologist?
- 5 A Yes, I am.
- 6 Q And isn't it correct that you were on the
- 7 original committee that developed the test
- 8 to be used to examine whether or not
- 9 individuals should be so certified?
- 10 A Yes, I was on that committee in 1980.
- 11 Q Dr. Levy, you're also a fellow in the
- 12 American College of Epidemiology; is that
- 13 correct?
- 14 A Yes, I am.
- 15 Q Would you explain to the jury what it means
- 16 to be a fellow in the college.
- 17 A To be a fellow one has had -- one is
- 18 evaluated according to the contributions one
- 19 has made in epidemiology in terms of service
- 20 to the government or to the field of
- 21 epidemiology, but primarily in the studies
- 22 they've done, the studies a person has been
- 23 involved in, major publications.
- 24 Q Dr. Levy, have you conducted epidemiology
- 25 studies?

- 1 A Yes, I had. I have.
- 2 Q Over the course of your career,
- 3 approximately how many studies have you been
- 4 responsible for, either as the principal or
- 5 co-principal investigator?
- 6 A At least 12 to 15 as the sole or
- 7 co-principal investigator. I'm not exactly

8           sure of the number, but it's at least that  
9           many.  
10        Q   And approximately how many additional  
11           epidemiology studies have you been involved  
12           in?  
13        A   Over a 35-year career, approximately 50, I  
14           would say.  
15        Q   Dr. Levy, I believe you told us a few  
16           minutes ago that you were both an  
17           epidemiologist and a biostatistician; is  
18           that correct?  
19        A   Correct.  
20        Q   Would you explain to us the distinction  
21           between an epidemiologist and a  
22           biostatistician?  
23        A   Sometimes it's a gray area.  An --  
24           epidemiology is really a biomedical field  
25           that studies exposures that might be risk

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1           factors for disease and uses a lot of  
2           principles of statistics, such as study  
3           design, statistical analysis, uses the field  
4           of -- uses biostatisticians quite a bit.  
5           Biostatistics is more of a mathematical  
6           statistical field.  A typical  
7           biostatistician would have, say, a Ph.D.  
8           degree in statistics with interest in health  
9           statistics, epidemiological studies, studies  
10          of vital statistics, so it's applications of  
11          mathematics and statistics to the biomedical  
12          sciences.  
13        Q   And you're both; is that correct?  
14        A   Yes.  My doctorate is in biostatistics.  
15        Q   Dr. Levy, let's back up just a bit, and I'd  
16           like for you to explain to the jury, or  
17           describe your educational training beginning  
18           with college, please.  
19        A   I went to college at Yale in New Haven,  
20           Connecticut, where I was born.  I got a  
21           Bachelor of Science in mathematics in 1958.  
22           From there, I went to Columbia University.  
23           I got a master's degree in mathematical  
24           statistics, although I was only there for  
25           two years.  I didn't get my degree until

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1           1962, because I had left before I got my  
2           degree to be a Public Health Service  
3           officer.  
4           I then went to Johns Hopkins University  
5           School of Public Health in Baltimore,  
6           Maryland, and got my degree in 1964, Doctor  
7           of Science Degree.  
8        Q   And is a Doctor of Science Degree -- is the  
9           modern equivalent of a Doctor of Science  
10          Degree, the Ph.D. degree?  
11        A   Yes.  At the time I went to school, there  
12           were -- to graduate school -- there were  
13           just two institutions that still gave Doctor  
14           of Science Degrees in public health.  One  
15           was Harvard, the other was Johns Hopkins.  I  
16           think Harvard still does.  I don't think

17 Johns Hopkins does still. It's equivalent  
18 to a Ph.D. Same curriculum, same thesis  
19 type of thing.  
20 Q After you earned your doctorate in  
21 biostatistics, you went to the Harvard  
22 Medical School; is that correct?  
23 A Yes.  
24 Q And would you explain to the jury what you  
25 did at Harvard.

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1 A First year I was a post-doctoral fellow  
2 doing some research in mathematical biology  
3 at what's now Peter Bent Brigham and Women's  
4 Hospital.  
5 After that, I took a position in the  
6 department of preventive medicine and was  
7 there for approximately six years. I taught  
8 medical students biostatistics, and I did  
9 epidemiological studies, particularly in  
10 factors relating to some infectious  
11 diseases, primarily.  
12 Q You said you were there six years?  
13 A I think six years. I think I was -- I  
14 left -- a little over six years. I left  
15 around December of 1970, I think.  
16 Q After your six years of teaching and  
17 researching at the Harvard Medical School,  
18 where did you go next?  
19 A I went to the National Center for Health  
20 Statistics in Rockville, Maryland, at the  
21 time. It's somewhere else now. It's now a  
22 division of Centers for Disease Control,  
23 CDC.  
24 And that's the agency that is  
25 responsible for the vital statistics of the

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1 United States; marriage, divorce, birth and  
2 death statistics, and major health surveys.  
3 And I was there -- I think my title was  
4 mathematical statistician, and I worked on  
5 the statistical methods for some of the  
6 major health surveys.  
7 Q Well, let me ask you about that, Doctor.  
8 What kind of -- specifically what kind of  
9 work did you do at the National Center for  
10 Health Statistics?  
11 A Basically research and sampling theory.  
12 Q Sampling theory?  
13 A Yes.  
14 Q Could you explain to the jury what sampling  
15 theory is and perhaps use an example to  
16 explain that.  
17 A Okay. Well, one example, if I wanted to  
18 study environmental tobacco smoke, let's say  
19 in Muncie, how many people are exposed to  
20 environmental tobacco smoke, and I wanted to  
21 take a sample of a population, I would want  
22 to take -- I would want to use certain  
23 principles. For one thing, I would want  
24 everybody in the population to have a  
25 certain chance of getting into the survey,

1 so that I cover everybody. And I want to do  
2 it -- take enough people so that I get a  
3 statistically valid -- so that the  
4 proportion that I end up getting of people  
5 exposed is statistically valid and reliable.  
6 So I want to take enough people, and I want  
7 to do it at a reasonable cost.

8 So since there's no way that I can put  
9 the names of everybody in Muncie -- I think  
10 there are about 75,000 people at least --  
11 into a hat and dip into the hat, and the  
12 ones that I pick out choose and survey, I  
13 would probably take a sample of city blocks  
14 and then -- and then take a subsample of  
15 houses within blocks, and then have  
16 interviewers go to the household and  
17 interview the people and sort of ascertain  
18 their exposure status to ETS, both at home  
19 and in the workplace.

20 And then following that, I would put  
21 all the data together and come up with a  
22 proportion and a measure of how valid that  
23 proportion is.

24 Q Dr. Levy, you could talk about sampling  
25 theory at some length, couldn't you?

1 A If people would listen, I could.  
2 Q In fact, you've written a couple of texts on  
3 that subject, haven't you?

4 A Yes, I have.

5 Q As well as numerous book chapters?

6 A Yes.

7 Q Where did you go when you left the National  
8 Center for Health Statistics?

9 A At that time, Illinois, the State of  
10 Illinois, had just begun a School of Public  
11 Health, and I was asked to participate as a  
12 charter faculty member. It was a new and  
13 exciting school, and I became a faculty  
14 member in 1972 at the University of  
15 Illinois-Chicago School of Public Health  
16 where I still am.

17 Q Dr. Levy, as a professor, you've been  
18 actively involved in teaching of students,  
19 haven't you?

20 A Yes, I have.

21 Q Could you briefly describe the types of  
22 courses you've taught over the past 30  
23 years.

24 A I've taught and developed several courses in  
25 biostatistics and in epidemiology. For one

1 thing, we have a medical school at the  
2 University of Illinois. In fact, I think  
3 it's the largest in the United States. And  
4 I taught biostatistics to medical students,  
5 to second-year medical students, there for  
6 about eight or nine years; and also at the  
7 University of Chicago, I was invited to

8 teach the same course there and at Chicago  
9 Medical School.  
10 I also taught and developed courses in  
11 statistics and biostatistics at various  
12 levels to School of Public Health students.  
13 I taught courses in sampling theory, I  
14 taught and developed courses in  
15 epidemiologic methods. I just -- this  
16 Thursday I just finished an eight-week  
17 course in quantitative methods in  
18 epidemiology.

19 Q So Dr. Levy, in addition to teaching medical  
20 students, you teach epidemiology and  
21 biostatistics to doctoral level or master  
22 level candidates who wish to become  
23 epidemiologists, don't you?

24 A Yes, we do.

25 Q In addition to your formal appointments,  
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1 teaching appointments, you also give a large  
2 number of invited lectures on epidemiologic  
3 and biostatistical topics, don't you?

4 A Yes, I do.

5 Q Could you give the jury just a couple of  
6 those.

7 A Well, just recently I was -- I gave a  
8 lecture at the University of Massachusetts  
9 in Amherst on low-level epidemiological  
10 associations between exposures and disease,  
11 and one of these low-levels associations  
12 involved environmental tobacco smoke.  
13 That's one of the ones I gave just recently.

14 I gave a course, series of lectures in  
15 sampling theory to economists at Dar es  
16 Salaam in Tanzania about a year ago, a  
17 little less than a year ago, a four-week  
18 course and series of lectures in sampling  
19 theory and basic statistics sponsored by the  
20 World Bank.

21 And I taught a course in environmental  
22 epidemiology in Moscow to Russian  
23 environmentalists, spent a month there in  
24 fall of 1996.

25 Q Dr. Levy, you told us about the books and  
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1 book chapters. You've also written a large  
2 number of individual articles that have been  
3 published in peer-reviewed journals, haven't  
4 you?

5 A Yes.

6 Q Can you give us an approximation as to how  
7 many?

8 A Approximately 160 to 170.

9 Q You also have served as a peer-reviewer for  
10 a number of journals, haven't you?

11 A Yes.

12 Q The jury knows what that means, but let me  
13 read you a list of journals, if I could, and  
14 you tell me whether or not you've served as  
15 a peer reviewer for those journals, okay?

16 The Journal of American Statistical

17 Association?  
18 A Yes.  
19 Q Statistics in Medicine?  
20 A Yes.  
21 Q Biometrics?  
22 A Yes.  
23 Q The Journal of the American Medical  
24 Association?  
25 A Yes.

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1 Q Annals of Internal Medicine?  
2 A Yes.  
3 Q The American Journal of Public Health?  
4 A Yes.  
5 Q The American Journal of Epidemiology?  
6 A Yes.  
7 Q The New England Journal of Medicine?  
8 A Yes.  
9 Q I take it there are others?  
10 A I'm sorry?  
11 Q I take it there are others also?  
12 A Yes, there are.  
13 Q Dr. Levy, are those journals among the  
14 leading medical, statistical, and  
15 epidemiologic journals in the world?  
16 A Yes. I believe they are.  
17 Q In addition to serving as a peer-reviewer,  
18 you have also served on the editorial board  
19 of scientific journals; is that right?  
20 A Yes.  
21 Q Would you explain to the jury what that  
22 means.  
23 A It means I'm responsible for not only  
24 reviewing articles, but for having articles  
25 sent to other reviewers, to evaluating the

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1 comments of other reviewers, to -- and to  
2 passing on my decisions or my  
3 recommendations to the editor in chief.  
4 In one of these, I was editor of the  
5 Encyclopedia of Biostatistics, a section  
6 editor for sampling theory and design of  
7 experiments. That sort of editorial board  
8 duty entailed that I commission about --  
9 find about 80 people to write articles on  
10 various topics that cover the field of --  
11 that I was responsible for, make sure that  
12 they write them, that they do them on time,  
13 send them back, have them send them back to  
14 me, review all of them, send it back to them  
15 for corrections or for revisions, and then  
16 eventually it goes to the editor in chief.  
17 And the entire publication is due out in --  
18 actually, as we're talking, in March, middle  
19 of March, and it will be a six-volume  
20 encyclopedia on CD rom and in hard cover.  
21 Q You're also on the editorial board for a  
22 journal called Statistics in Medicine?  
23 A Yes.  
24 Q Is that a prominent journal in the fields of  
25 epidemiology and biostatistics?

- 1 A That's become probably the leading journal  
2 in applications of biostatistics to medical  
3 sciences.  
4 Q Dr. Levy, in your career, have there been a  
5 number of occasions when various agencies of  
6 the United States Government have called  
7 upon you to help them understand public  
8 health issues?  
9 A Yes.  
10 Q I want to list, read to you a list of  
11 agencies, if I could, and you tell us  
12 whether or not these agencies have called  
13 upon you for assistance in understanding  
14 those types of issues, okay?  
15 A Okay.  
16 Q The National Institutes of Health?  
17 A Yes.  
18 Q The National Institute of Occupational  
19 Safety and Health?  
20 A Yes.  
21 Q The Food and Drug Administration?  
22 A Yes.  
23 Q The United States Department of State?  
24 A Yes.  
25 Q The National Center for Health Statistics?

- 1 A Yes.  
2 Q The National Academy of Sciences?  
3 A Yes.  
4 Q The Armed Forces Institute of Pathology?  
5 A Yes.  
6 Q And the Centers for Disease Control?  
7 A Yes.  
8 Q The National Institutes of Health?  
9 A Yes. You said that.  
10 Q Maybe I read that one twice.  
11 Dr. Levy, you're also called upon from  
12 time to time by private entities for  
13 assistance in understanding epidemiologic  
14 and biostatistical issues, aren't you?  
15 A Yes, I am.  
16 Q Can you give us a recent example of that  
17 type of project?  
18 A Yes. Fairly recent one was Monsanto, which  
19 is a chemical company in St. Louis. It has  
20 a division that produces a sweetener, food  
21 sweetener, called NutraSweet, which contains  
22 a base factor ingredient, a product called  
23 aspartame. If you drink diet sodas, you've  
24 been exposed to aspartame. If you put these  
25 little -- if you use Equal or other

- 1 sweeteners, you probably have, too.  
2 And there was some issue of whether  
3 these -- whether use of aspartame is  
4 associated with brain tumors. I thoroughly  
5 reviewed brain tumor statistics and  
6 aspartame market -- not marketing but  
7 product sales and correlated the rise in

8 brain tumors with use of aspartame.  
9 And it turned out that the incidence of  
10 brain tumors was increasing long before  
11 use -- before aspartame became approved in  
12 the mid-1980s. And aspartame is still being  
13 widely used, and brain tumors are now  
14 leveling off some, so I wrote a letter to  
15 the editor of a journal stating that it's my  
16 conclusion, my opinion that there is no  
17 relationship between the two.

18 Q One more background question, Dr. Levy.  
19 Could you describe for the jury what some of  
20 your current research projects are.

21 A Yes. Some of my current projects are -- I'm  
22 finishing the third edition of my sampling  
23 book. I'm involved in developing curriculum  
24 for a training grant, training students to  
25 be epidemiologists in the field of the

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1 epidemiology of diseases of the elderly.  
2 Most of -- some of us are elderly now. By  
3 the year 2010, there will be approximately,  
4 I believe, 30 percent of the people over 65  
5 years old; so diseases of the elderly are  
6 going to be very important.

7 Q Okay.

8 A We're an aging population.

9 Q Dr. Levy, as an epidemiologist with more  
10 than 35 years of experience, do you have  
11 expertise in the statistical principles  
12 involved in the design, analysis, and  
13 interpretation of epidemiologic studies such  
14 as those that have been conducted on  
15 environmental tobacco smoke?

16 A Yes, I feel that I do.

17 Q Are those the types of principles that you  
18 have used on a daily basis for the past 35  
19 years?

20 A Yes.

21 Q Dr. Levy, I now want to preview for the jury  
22 what I've asked you to come here and testify  
23 about. And have I, in fact, asked you to  
24 explain to the jury the types of statistical  
25 and epidemiologic principles that

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1 epidemiologists such as yourself use in  
2 designing, analyzing, and interpreting  
3 epidemiologic studies such as those of  
4 environmental tobacco smoke?

5 A Yes, you have.

6 Q And have I also asked you to provide to the  
7 jury your evaluation of the epidemiologic  
8 studies of environmental tobacco smoke and  
9 lung cancer using those same principles?

10 A Yes, you have.

11 Q Have you done the work necessary to provide  
12 testimony on those topics, Doctor?

13 A Yes, I feel that I have.

14 Q Approximately how long has it taken for you  
15 to do all the work necessary to address  
16 those issues?



17 A Somewhere between 120 and 140 hours of work.  
18 I don't have the exact figures because I  
19 have not brought my -- my hours are not kept  
20 on the laptop that I travel with.  
21 Q Okay.  
22 A But it's approximate. No fewer than 120, no  
23 more than 140, including today's event.  
24 Q You have charged for your time in preparing  
25 to testify here, haven't you?

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1 A I'm sorry?  
2 Q You've charged for the time that you've  
3 spent to testify?  
4 A Yes, I have. Yes.  
5 Q What rate do you charge for those types of  
6 services, Doctor?  
7 A \$275 an hour.  
8 Q Doctor, have you ever testified in court as  
9 an expert witness before?  
10 A Yes.  
11 Q Approximately how many times?  
12 A Roughly four or five times that I've  
13 actually testified in court.  
14 Q Have you ever testified before in a case  
15 involving tobacco?  
16 A No, I haven't.  
17 Q You may not be able to see them clearly, but  
18 have you ever worked with me or any of the  
19 other lawyers on this side of the room  
20 before this case?  
21 A Other than on this particular project, no.  
22 Q Dr. Levy, I'd like to ask you to walk us  
23 through the types of statistical and  
24 epidemiologic principles that an  
25 epidemiologist such as yourself would use to

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1 analyze an issue such as whether or not the  
2 epidemiology studies of environmental  
3 tobacco smoke are consistent with a causal  
4 relationship. Okay?  
5 A Okay.  
6 Q To answer that type of question, what would  
7 be the first thing that you would do as an  
8 epidemiologist?  
9 A I would make sure I had all the data  
10 available on the topic.  
11 Q How would you do that?  
12 A I would do a literature search. These can  
13 be conveniently done by use of a computer.  
14 Almost all of us in medical institutions are  
15 connected to the National Institutes of  
16 Health, the National Library of Medicine.  
17 We can plug in a few key words, such as  
18 environmental tobacco smoke, lung cancer,  
19 epidemiological studies, human studies; plug  
20 it in, push a button, and also indicate what  
21 time periods we would want for the -- want  
22 the literature.  
23 And, for example, the first study was  
24 in 1981, so I would put something like 1980  
25 to present. And the computer would spew out

1 the list of approximately all the studies  
2 that were in its computer file on that  
3 particular topic.

4 And I believe that's what I did, and I  
5 believe I had gotten several hundred  
6 studies. Not all of them were relevant. I  
7 then go through the abstracts. Abstracts  
8 are short, 200 at most, writeups of what's  
9 in the study, and pick out for further study  
10 those that look to be relevant to the topic.  
11 And then of those that are relevant, I get  
12 the entire articles.

13 Q Let me ask you how you went about making  
14 those relevancy determinations. To answer  
15 the question of whether environmental  
16 tobacco smoke exposure is associated with  
17 increased risk of lung cancer, what types of  
18 studies were you looking for?

19 A I was looking for epidemiological studies  
20 and especially for the type of  
21 epidemiological study that would enable you  
22 to look at -- the type of study that will  
23 come up with an association, an estimate of  
24 association between a putative risk factor,  
25 exposure, and a particular disease; in this

1 case, ETS and lung cancer. And there were  
2 two basic types of studies.

3 Q And what types of studies are those?

4 A Case/control studies and cohort studies.

5 Q What is a case/control study?

6 A Let me start with a cohort study because  
7 that's more --

8 Q Okay.

9 A That's easier to explain.

10 A cohort study is one where you take a  
11 whole defined group of people. It could be  
12 a community, it could be an occupation --  
13 group of people working in a particular  
14 plant. And once you define what this  
15 group -- this cohort, you then measure what  
16 their exposure is to the putative risk  
17 factor that you're interested in. In this  
18 case, you would measure what their exposure  
19 is to environmental tobacco smoke.

20 You then follow these people for a  
21 number of years, and you look at who gets  
22 lung cancer and who doesn't.

23 Q And that's a cohort study?

24 A That's a cohort study.

25 Q And what is a case/control study?

1 A A case/control study is a more common type  
2 of epidemiologic study. Instead of starting  
3 with a group of people and looking at their  
4 exposure and then following them up for  
5 disease, you start with a group of people  
6 that actually have the disease, and in this  
7 case one would look at a group of people

8 with lung cancer, and -- well, without  
9 getting too specific, let's say a group of  
10 people with lung cancer. And then take a  
11 group of people -- I'm sorry, let me  
12 backtrack.

13 The group of people with lung cancer  
14 are the cases, they're called the cases.  
15 The controls are a group of people that are  
16 chosen because they're very similar to the  
17 cases except that they don't have lung  
18 cancer. So you have two groups; cases,  
19 people with lung cancer; cases -- controls,  
20 people without lung cancer.

21 In both of these groups, you measure by  
22 questionnaire, actually, or by telephone, by  
23 some sort of interviewing process, whether  
24 they've been exposed to environmental  
25 tobacco smoke and if so, as best you can do,

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1 how much, what their total exposure is.

2 Then your bottom line is comparing the  
3 proportion exposed among the cases with the  
4 proportion exposed among the controls. If  
5 there is a relationship between the two, the  
6 proportion exposed among the cases should be  
7 higher than the proportion exposed among the  
8 controls.

9 Q Okay. The question before us is examining  
10 whether or not environmental tobacco smoke  
11 exposure is associated with an increased  
12 risk of lung cancer; right? In that regard,  
13 would you be looking for studies of active  
14 smoking and lung cancer risk?

15 A No, I wouldn't because --

16 Q Why not?

17 A Because active -- we're looking at exposures  
18 that are among people that are not active  
19 smokers. A person who is an active smoker  
20 has very high risk of getting lung cancer.  
21 We don't want to look at them. We want to  
22 look at people who are nonsmokers and look  
23 at what their risk is from exposure.

24 Q Okay. When you began explaining to us the  
25 types of studies you would look for, I

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1 believe you testified that you would look  
2 for studies that provided some measure of  
3 association between --

4 A Yes.

5 Q -- exposure and disease; is that correct?

6 A That's correct.

7 Q What did you mean by measure of association?

8 A A kind of bottom line figure that measures  
9 the strength of the relationship between  
10 exposure, which in this case is  
11 environmental tobacco smoke, and lung  
12 cancer. And the usual bottom line statistic  
13 is called a relative risk.

14 Q Slow down for just a minute, Doctor.

15 A Okay.

16 Q You said you would look for the strength of

17 the association; is that correct?  
18 A Right.  
19 Q And you would examine that topic by looking  
20 at, did you say, relative risk?  
21 A Yes. It's called, most frequently, a  
22 relative risk. Sometimes it's called a risk  
23 ratio. And something very similar is called  
24 an odds ratio. But basically they're the  
25 same thing.

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1 Q And what is a relative risk?  
2 A Relative risk measures the likelihood --  
3 okay, it's a ratio of the chances -- ratio  
4 in that that has as a numerator the chances  
5 of a person exposed to a particular -- to  
6 let's say ETS, the chances of that person  
7 getting lung cancer; and in the denominator  
8 the chances of a person not exposed getting  
9 lung cancer.  
10 For example -- should I give a simple  
11 arithmetic?  
12 Q Please do.  
13 A Okay. I won't do it with ETS. Yesterday,  
14 I, between breaks in the rain, I took a  
15 six-mile run towards, I guess it was towards  
16 Ball State, and I passed a very nice  
17 Catholic Church right near the hospital.  
18 And I was thinking of a possible example.  
19 And let's say there was a church supper  
20 there and they had two things. These are  
21 hypothetical, considering what happened to  
22 Oprah, chicken and beef.

MR. MOTLEY: What happened to who?

MR. FURR: Oprah.

MR. MOTLEY: Oh, I'm sorry. I

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1 thought he said the opera.  
2 A And let's say people -- 200 people attended,  
3 100 ate the beef only, 100 ate the chicken  
4 only; of the 100 that ate the beef, 50 got a  
5 diarrheal-type of disease. So that's 50  
6 over 100 among those getting, eating the  
7 beef.  
8 Among those that didn't eat the beef,  
9 in other words, that ate the chicken, 25  
10 over 100 got the diarrheal disease.  
11 Q Okay.  
12 A Well, you divide -- the relative risk would  
13 be gotten by dividing 50 over 100 by 25 over  
14 100, okay? Just divide that. And you would  
15 get two. So the relative risk is 2.  
16 Q What does that mean, Doctor?  
17 A It means that if you ate the beef, you were  
18 twice as likely to come down with a disease,  
19 with a diarrheal disease, than if you don't  
20 eat the beef.  
21 Q Doctor, what would it have meant if the  
22 relative risk that you had come up with was  
23 1.0?  
24 A It would mean that there -- you were just as  
25 likely to come down with the disease if you

- 1 ate the beef as if you didn't -- as if you  
2 didn't eat the beef, and it would imply that  
3 there was no relationship between eating  
4 beef and coming down with the disease.
- 5 Q Okay. Dr. Levy, you told us that you would  
6 want to examine the strength of the  
7 association that is reflected within the  
8 relative risk; is that correct?
- 9 A Yes.
- 10 Q How do you do that? Let me ask it a  
11 different way.
- 12 What comprises a strong versus a weak  
13 relative risk?
- 14 A Okay. It's by the size of that number. For  
15 example, if that number was 50, then you  
16 would be 50 times as likely to come up  
17 with -- to get the disease if you ate the  
18 beef than if you didn't eat the beef.
- 19 If it were 25, you would be 25 times as  
20 likely.
- 21 Q Okay. And is there a cutoff that defines a  
22 strong versus a weak relative risk?
- 23 A Generally, in epidemiology, a relative risk  
24 below 2 is considered a weak association.  
25 And it doesn't mean that it's not a real

- 1 association. It means that because of the  
2 most -- in epidemiology, we don't do a lot  
3 of physical measurements or biological  
4 measurements. A lot of the information on  
5 exposure is gotten by interviewing people.  
6 And the interview method is fraught with  
7 problems, and anything below 2 is considered  
8 very fragile with respect to problems in the  
9 technique of interviewing.
- 10 Q That's what I want to ask you about next.
- 11 A Okay.
- 12 Q And that is, strength, why do we care how  
13 large the relative risk is?
- 14 A Well, for one thing, the greater the  
15 relative risk, the greater the particular  
16 exposure is as a health problem. Especially  
17 if it's widely prevalent.
- 18 Secondly, the high -- by the  
19 epidemiological methods, it's much easier to  
20 identify a high relative risk than it is to  
21 identify a low relative risk.
- 22 Q Okay. You've told us that you look at the  
23 strength of the measure of association.  
24 Correct?
- 25 A Correct.

- 1 Q Are there other statistical attributes of  
2 the measure of association that you look at?
- 3 A Yes.
- 4 Q What would that be?
- 5 A Well, one would be whether it's  
6 statistically significant.
- 7 Q Help me, Doctor. T-I-S-T-I-C?

8 A No, T-I-C-A-L-L-Y. Significantly.  
9 Q What does statistical significance mean?  
10 A It refers to the chance that a particular  
11 relative risk that you obtained from a study  
12 might just have occurred by chance. For  
13 example, if instead of 100 people that ate  
14 and 100 people that didn't eat the beef, I  
15 had ten people eating the beef and ten  
16 people not eating the beef, there was 20  
17 attending instead of 200, you would get the  
18 same relative risk -- actually, you couldn't  
19 because you can't have 2.5. But let's  
20 suppose you could have 2.5. You'd come up  
21 with the same number, 2, but one individual  
22 that, say, may not have really had the  
23 disease that was classified as having the  
24 disease would totally invalidate that  
25 statistic. That's for one thing.

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1 Secondly, if you did it again and  
2 again, even if there was no true  
3 relationship, just the luck of the draw  
4 could have given you a relative risk that  
5 high if the numbers were small.  
6 Q So is this concept of statistical  
7 significance related to the occurrence of  
8 chance associations?  
9 A Just chance associations. Just a bad draw.  
10 Q Okay. You told us how to assess the  
11 strength of a relative risk. How do  
12 epidemiologists assess the statistical  
13 significance of a relative risk?  
14 A In two ways. By something called a test of  
15 statistically significance -- statistical  
16 significance.  
17 Q Okay. What are those tests?  
18 A They have names. They're called -- the one  
19 we would use for, to test the relative risk  
20 would be a chi square test. Chi is a Greek  
21 letter.  
22 Q Okay. What's the second test?  
23 A The second way would be by a confidence  
24 interval.  
25 Q What do you mean, confidence interval?

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1 A That's the preferred way for evaluating the  
2 significance of relative risks.  
3 Q You say that's the preferred way?  
4 A Yes, the confidence interval.  
5 Q Well, could you give us an example of a  
6 confidence interval?  
7 A Okay. Let's say we did a study and we came  
8 up with a relative risk of two. And the  
9 study was based on a certain number of  
10 people.  
11 Q Okay.  
12 A Using statistical theory, based on that  
13 particular number of people that were in the  
14 study and the actual relative risk that we  
15 observed, we could come up with a lower  
16 interval and an upper interval.

17 Q Give us an example.  
18 A Okay. Let's say confidence interval, let's  
19 say the lower interval was 1.5, and the  
20 upper interval was 2.6.  
21 Q What would be the interpretation of that  
22 confidence interval?  
23 A Well, if we used -- well, if this were a 95  
24 percent confidence interval --  
25 Q Okay.

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1 A -- we would say that we're 95 percent  
2 confident that the true relative risk is  
3 somewhere between 1.5 and 2.6.  
4 Q If you had come up with a confidence  
5 interval of, say, 0.5 to 5.0 at the 95  
6 percent level, how would you interpret that  
7 confidence interval?  
8 A That we're 95 percent confident that the  
9 true relative risk is somewhere between 0.5  
10 and 5.  
11 Q What does the fact that this interval  
12 includes 1.0 mean?  
13 A It means we can't say -- well, if 1.0  
14 implies that there's no assoc -- no  
15 relationship between the exposure and the  
16 disease; so if the lower interval is less  
17 than 1.0 and the upper interval is greater  
18 than 1.0, as this is in your last case, we  
19 can -- we would say that the relationship is  
20 not statistically significant.  
21 Q So this relationship would not be  
22 statistically significant?  
23 A Right. Because the interval overlaps 1.  
24 Q And this one would be?  
25 A That one would be, yes.

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1 Q And this is at the 95 percent confidence  
2 level.  
3 A Yes.  
4 Q Can the confidence level be assessed at  
5 levels other than 95 percent?  
6 A Yes. It can be. You could have it at 90  
7 percent.  
8 Q Is there one level which is traditionally or  
9 typically used by epidemiologists and  
10 biostatisticians to assess the confidence  
11 that you can place on the relative risk?  
12 A The usual level that's been used throughout  
13 the ages is 95 percent.  
14 Q What effect on the confidence that you can  
15 place on the relative risk would it have if  
16 instead of using the 95 percent level, you  
17 used, let's say, the 90 percent level?  
18 A Okay. You would have to sort of flip it  
19 around a little bit. If you're 95 percent  
20 confident that your true relative risk is  
21 between those two numbers, then your level  
22 of non-confidence, your error level, is 5  
23 percent.  
24 If you use 90 percent as your  
25 confidence interval, even though 90 and 95

- 1 are very close to each other, when you look  
2 at it the other way around, as your error  
3 level, instead of a 5 percent error, you  
4 have a 10 percent error if you -- 10 percent  
5 chance of being incorrect if you use the 90  
6 percent level.
- 7 Q So by changing from a 95 percent level to a  
8 90 percent level, we would be, in effect,  
9 doubling our likelihood of error. Is that  
10 correct?
- 11 A Yes. Doubling your uncertainty in the  
12 result.
- 13 Q Dr. Levy, let's go back to the question that  
14 we began trying to answer. And that is,  
15 whether or not the epidemiologic studies --  
16 I should say, what the statistical  
17 principles are that you would use to analyze  
18 the epidemiologic studies.
- 19 If we take our first study and we find  
20 a measure of association; that is, a  
21 relative risk that is in the range that you  
22 believe to be adequately strong, and is  
23 statistically significant, are you ready to  
24 reach a conclusion as to whether or not that  
25 study is consistent with a causal

- 1 relationship?
- 2 A Not quite yet.
- 3 Q What do you have to do next?
- 4 A You want to look at -- read the article  
5 carefully and look for possible biases.
- 6 Q Biases. What do you mean by biases?
- 7 A Biases are entities that might be  
8 characteristic of the way -- of the way the  
9 study was designed or imperfections in the  
10 information, in the way the information was  
11 gotten from the individuals or the way the  
12 subjects were selected that would lead to  
13 incorrect conclusions.
- 14 Q Does a bias mean that someone has  
15 intentionally tried to design the study in a  
16 way to reach a certain result?
- 17 A No, it doesn't. These are things of  
18 imperfections in the measurement process  
19 that would lead to a systematic error of  
20 some kind.
- 21 Q What effect does it have on your analysis of  
22 a study if you find biases to be present in  
23 the study design?
- 24 A It makes -- it makes the study, the  
25 conclusions that you come with respect to

- 1 the study, not valid.
- 2 Q Are there any particular types of bias that  
3 you would be concerned about evaluating when  
4 looking at studies of environmental tobacco  
5 smoke and lung cancer?
- 6 A They're particularly fragile with respect to  
7 biases, because the usual design is to take



8 the case/control design. Your cases are  
9 nonsmoking women with lung cancer. So to be  
10 classified -- to be a case, one has to not  
11 only have lung cancer and be a woman, one  
12 has to be a lifetime nonsmoker.

13 Q What type of bias are you concerned with in  
14 that regard?

15 A It's been shown in several validation  
16 studies that people that claim to be  
17 lifetime nonsmokers, either by not  
18 understanding the question or by not wanting  
19 to admit to ever having smoked, really may  
20 have had some smoking history. So the  
21 people that are lifetime nonsmokers in these  
22 studies, there may be a proportion of them  
23 that have been misclassified.

24 Q Is that what is referred to as smoking  
25 status misclassification?

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1 A Yes.

2 Q And have there, in fact, been studies done  
3 to determine at what rate people get  
4 misclassified with respect to their smoking  
5 status when they participate in the  
6 epidemiologic studies of environmental  
7 tobacco smoke?

8 A Yes. There have been studies. Generally, I  
9 would say most of them are in the range of  
10 about 2 to 10 percent misclassification.

11 Q Okay. Well, what's the effect of smoking  
12 status misclassification on the  
13 epidemiologic studies of environmental  
14 tobacco smoke?

15 A It's a subtle effect, but it's very real,  
16 and it could be devastating, especially in  
17 low-level associations, because smokers tend  
18 to marry smokers. And nonsmokers tend to  
19 marry, or cohabitate with nonsmokers.

20 And since the basic exposure that  
21 you're studying in these studies, or that  
22 you're measuring in these studies, and it is  
23 environmental, and mostly -- most of these  
24 studies have been exposures at the home;  
25 then even if there's no relationship, if

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1 there is a certain number of these women who  
2 claim to be non- -- lifetime nonsmokers, who  
3 at some point have smoked or may still be  
4 smoking lightly, they are more likely to  
5 have married smokers and to have been  
6 classified as exposed.

7 Q Well, what effect does that have on the  
8 measure of relative risk that you obtain  
9 when you do these studies?

10 A It makes them -- it would raise the relative  
11 risk, make it artificially high. And that's  
12 been recognized by virtually everybody that  
13 has studied -- that does these studies.

14 Q Okay. Are there any other types of bias  
15 that you would be concerned about when  
16 reviewing the studies of environmental

17 tobacco smoke and lung cancer risk?  
18 A Well, one of the things like recall bias.  
19 Q What's recall bias?  
20 A A person is making an honest attempt to  
21 answer a question about exposure but just  
22 doesn't remember exactly how much he or she  
23 has been exposed to. And that would refer  
24 to the environmental tobacco smoke exposure  
25 of the spouse of the case or of the control.

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1 Q And how would that affect your efforts to  
2 assess the relative risk as a measure of  
3 association for these studies?  
4 A That would affect it in an unpredictable  
5 way. But it would make it -- it would be a  
6 source of -- if in the case/control study, a  
7 case is more likely to remember that  
8 exposure to environmental tobacco smoke than  
9 a control, which is not altogether unlikely  
10 because they're more sensitized to it. It  
11 would again tend to raise the relative risk.  
12 Q Okay. Let's go back to our original  
13 question, Doctor. If in the first study you  
14 find a relative risk that you believe to be  
15 of reasonable strength, that is  
16 statistically significant, and you become  
17 convinced that biases have been adequately  
18 controlled for it in that study, are you  
19 ready to reach a conclusion as to whether or  
20 not the relative risk is consistent with a  
21 causal relationship?  
22 A Again, you should look for what are called  
23 confounders.  
24 Q Confounders. What are confounders?  
25 A Confounders are variables, entities that are

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1 associated both with the exposure that  
2 you're studying, and the disease that you're  
3 looking at.  
4 For example, in environmental tobacco  
5 smoke studies, you would look for things  
6 like radon exposure. Radon is a cause or  
7 one of the causes of lung cancer, one -- I  
8 should say one of the things that are  
9 strongly associated with lung cancer. And  
10 since married people tend to live in the  
11 same house, there would be high degree of  
12 concordance between the case being exposed  
13 to radon and the spouse of the case being  
14 exposed to radon. That's one thing.  
15 So is diet. People that marry each  
16 other tend to have similar diets. They tend  
17 to either be -- have the ordinary, normal  
18 American diet, or if one has sort of a  
19 high-fat diet, the other would have a  
20 high-fat diet. Or if, on the other hand,  
21 they're health food addicts and eat a lot of  
22 fruits and vegetables and broccoli, they  
23 would -- there would be a concordance  
24 between the husband and wife; they would  
25 both eat it. You generally don't have the

- 1 situation where Jack eats no fat and Jill  
2 eats no lean.  
3 And that would tend to, again, raise  
4 the relative risk.  
5 Q That's what I wanted to ask you. What's the  
6 effect on an epidemiologic study of having  
7 confounding in the study?  
8 A If it's a confounder -- if there's  
9 confounding in the study, it would also tend  
10 to result in an artificially high relative  
11 risk.  
12 Q Dr. Levy, how do epidemiologists attempt to  
13 assess whether or not confounding is present  
14 in epidemiology studies?  
15 A Well, they either design the study  
16 beforehand to match on confounding -- on  
17 confounders that they think they may be  
18 aware of, or else they can do it when they  
19 analyze the data statistically.  
20 Q So are there statistical methods available  
21 to attempt to adjust for confounders after  
22 studies have been conducted?  
23 A Yes, there are many methods.  
24 Q And are those methods capable of fully and  
25 perfectly adjusting for confounding in the

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- 1 data?  
2 A Not fully or perfectly. They can remove  
3 some of the confounding.  
4 Q Let's go back to our question, Doctor. If  
5 we have a study for which you are convinced  
6 the measure of association is strong,  
7 statistically significant, and that biases  
8 and confounders have been reasonably  
9 controlled for, are you ready to reach a  
10 conclusion based on that study as to whether  
11 or not environmental tobacco smoke is  
12 associated with an increased risk of lung  
13 cancer?  
14 A No. You would want to look at all -- you've  
15 gotten all of the studies; you would want to  
16 look at all of the studies in the same way  
17 as you did with this one study, and to see  
18 whether the results are consistent.  
19 Q So is it correct, then, that you would have  
20 to analyze each of the studies using these  
21 same criteria to determine whether or not  
22 there was a consistency across the studies?  
23 A Yes, you would.  
24 Q Dr. Levy, are these statistical principles  
25 that you've identified and explained to the

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- 1 jury reliable principles for use in  
2 evaluating epidemiology studies such as  
3 those of environmental tobacco smoke and  
4 lung cancer?  
5 A I believe that they are.  
6 Q And are they the statistical principles that  
7 epidemiologists such as yourself customarily

8 use when evaluating epidemiology studies  
9 such as those of environmental tobacco smoke  
10 and lung cancer?  
11 A I believe that they are. They might use  
12 different terms, but that's what they do.  
13 Q Dr. Levy, let's turn to your evaluation of  
14 the environmental tobacco smoke studies.  
15 Have you, in fact, analyzed the  
16 epidemiologic studies of environmental  
17 tobacco smoke using these criteria?  
18 A Yes, sir, I have.  
19 Q I'm going to ask you for a bottom line  
20 opinion in a little while, but first, if you  
21 would, I'd like for you to walk through  
22 these criteria and tell the jury what you  
23 found when you applied these criteria to the  
24 epidemiology studies of environmental  
25 tobacco smoke.

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1 A Okay.  
2 Q Did you obtain all the data?  
3 A I obtained all the data.  
4 Q How did you do that?  
5 A As I've said, I did literature searches,  
6 once I got the papers that I thought were  
7 relevant, I looked at their references. If  
8 they referred to papers that I thought may  
9 be also relevant, I checked those out. And  
10 I looked at other -- I looked at reviews and  
11 I believe I found -- I believe I included  
12 all of the present papers. I focused on the  
13 U.S. studies, because this case involves ETS  
14 in the U.S. And I believe I have looked at  
15 all of the studies that have been conducted  
16 from -- from the time the first one appeared  
17 in the early '80s until just recently.  
18 Q Dr. Levy, did the epidemiology studies of  
19 ETS that you found contain relative risk  
20 estimates for different types of ETS  
21 exposures?  
22 A Yes.  
23 Q And what types of ETS exposures did these  
24 studies have risk estimates for?  
25 A Mainly household exposure, and that was

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1 broken down often into childhood and then  
2 adulthood. And adulthood, primarily spouse  
3 and other members, and some of them had  
4 workplace exposures.  
5 Q So is it correct then that the studies had  
6 different relative risk estimates for  
7 household exposure versus workplace  
8 exposure?  
9 A Some of them did. Some of them had no  
10 workplace exposures. Most of them -- in  
11 fact, all of them had household exposures.  
12 Q Okay.  
13 A Of the ones that I'm talking about.  
14 Q Let me ask you first to talk about the  
15 residential exposure data. Did you evaluate  
16 whether the relative risk found in the

17 residential exposure studies satisfied the  
18 criterion of strength of association?  
19 A Yes.  
20 Q And did you prepare an illustrative exhibit  
21 in that regard, Doctor?  
22 A Yes.  
23 Q Would that be in assistance of explaining  
24 your analysis to the jury?  
25 A Yes.

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1 MR. FURR: With the Court's  
2 permission, I'd ask the doctor to step down  
3 and use his exhibit.  
4 THE COURT: Go ahead.  
5 MR. FURR: Your Honor, I believe we  
6 provided copies of these.  
7 THE COURT: You did.  
8 Q Okay, Dr. Levy, could you use your exhibit  
9 to explain to the jury what you found  
10 regarding strength of association.  
11 A I guess it can be seen better if I stand  
12 here.  
13 Q Sure.  
14 A There were 16 studies that provided  
15 household relative risks. And of these 16,  
16 four showed relative risk below 1, which if  
17 you believe, it actually means that ETS had  
18 a protective effect from lung cancer. Seven  
19 of them were between 1 and 1.5, two were  
20 between 1.5 and 2. And I should add that,  
21 in the most recent review by the  
22 Environmental Protection Agency, they  
23 estimated a relative -- actually, in this  
24 level, around 1.2.  
25 Q Around 1.2?

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1 A Yeah.  
2 Q This was the EPA's estimate?  
3 A EPA, of their '92 report which is --  
4 Q And how did the EPA derive that estimate of  
5 1.2?  
6 A From looking at a subset of these that were  
7 available at that time.  
8 Q Did the EPA use a particular statistical  
9 technique to derive that estimate?  
10 A Yes, meta-analysis.  
11 Q Meta-analysis. Let me stop you while you're  
12 up. What is meta-analysis?  
13 A Meta-analysis is a way of, when you have a  
14 whole group of studies like these 16, to put  
15 all of them together and get an overall  
16 average, an overall, best estimate that you  
17 can, of the overall relative risk based on  
18 the information from this set of studies.  
19 Q What exposure did the EPA's estimate of a  
20 relative risk of 1.2 using meta-analysis,  
21 apply to?  
22 A Household exposure.  
23 Q Household exposures?  
24 A Household only. They didn't look at  
25 workplace. I think I -- I didn't mention

1 that of these 16, only three were above 2,  
2 had relative risks above 2, so all of them  
3 would be -- all but three would be  
4 considered very weak associations.  
5 Q Okay. Thank you. You can sit down.  
6 A Okay.  
7 Q Let me ask you, make sure I heard you, did  
8 you say that 13 of the 16 would be  
9 considered very weak associations?  
10 A Would be considered weak associations.  
11 Q Dr. Levy, did you also assess whether or not  
12 the epidemiology studies involving  
13 residential exposures were statistically  
14 significant?  
15 A If I remember -- well, I think all but one  
16 of them were not.  
17 Q And was this the same 16 studies that we  
18 looked at here?  
19 A Yes.  
20 Q And is it your testimony that 15 of the 16  
21 were not statistically significant?  
22 A Yes. I'm pretty sure of that. The one by  
23 Fontham may have been.  
24 Q Okay. And what statistical significance  
25 level did you assess the statistical

1 significance of these studies at when you  
2 made your evaluation?  
3 A 95 percent.  
4 Q You told us that's the traditional level for  
5 assessing statistical significance?  
6 A That's considered the usual standard.  
7 Q Dr. Levy --  
8 A If one doesn't use it, one usually has to  
9 explain why they didn't use it.  
10 Q The third statistical principle you  
11 described for us was the principle of  
12 whether or not bias had been adequately  
13 controlled for in the studies; is that  
14 correct?  
15 A Yes.  
16 Q Did you evaluate the control of bias in the  
17 studies of ETS and lung cancer?  
18 A Yes.  
19 Q And what did you find in that regard,  
20 Doctor?  
21 A Well, the major bias that, the  
22 misclassification bias, was not adjusted for  
23 in any of the individual studies.  
24 Q This is the smoking status misclassification  
25 bias?

1 A Yes.  
2 Q And to refresh us, what is the effect of not  
3 adjusting for the smoking status  
4 misclassification bias on an individual  
5 study?  
6 A The relative risks that are expressed in the  
7 individual studies are higher than they

8 should be.  
9 Q Did you assess whether or not the individual  
10 studies controlled for the bias that you  
11 described for us known as recall bias?  
12 A No, they didn't.  
13 Q Did any of them control for recall bias?  
14 A As I recall, I don't think they did.  
15 Q Okay. Dr. Levy, did you also assess whether  
16 or not the epidemiologic studies of  
17 environmental tobacco smoke and lung cancer  
18 controlled adequately for confounders or  
19 potential confounders?  
20 A Some of them did for some confounders, some  
21 of them did for other confounders, some of  
22 them did no control for confounders. As far  
23 as I remember, none of them controlled  
24 completely for -- well, it's hard to  
25 control -- none of them controlled for all

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1 of the confounders.  
2 Q Dr. Levy, in your opinion, were confounders  
3 controlled for adequately overall in the  
4 studies collectively?  
5 A No.  
6 Q In particular, what confounders would you be  
7 concerned about, Doctor?  
8 A I would be concerned about the ones that I  
9 mentioned, socioeconomic status. I'd be  
10 concerned about exposure to radon, I would  
11 be concerned about history of previous lung  
12 disease which has been found to be a risk  
13 factor, and I would be concerned about  
14 especially nutrition, dietary intake of  
15 vegetables, dietary intake of fat, which  
16 have also been shown in some studies to be  
17 associated with lung cancer. Only one, I  
18 believe, controlled for diet.  
19 Q Dr. Levy, what would the potential impact be  
20 on the measures of relative risk in the  
21 residential epidemiology studies by failing  
22 to adequately control for confounders?  
23 A Well, since they're associated with both the  
24 exposure and the disease because of the  
25 spousal proximity, they would result in an

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1 overstated relative risk.  
2 Q Dr. Levy, the last principle you told us  
3 about was consistency; right?  
4 A Yes.  
5 Q Did you evaluate whether or not the results  
6 obtained in the residential environmental  
7 tobacco smoke studies provided a consistent  
8 pattern of results?  
9 A There was some consistency. You've seen the  
10 results. All of them are weak, except  
11 three. Three are maybe moderate. Some of  
12 them are less than 1; some of them aren't.  
13 But most -- 7, 10, 12 of the 16 are in a  
14 positive direction, greater than 1, but --  
15 so there is some consistency.  
16 However, because of that systematic

17 bias where they should be greater than 1  
18 because the bias is present, I would put  
19 less stock in the consistency than I would  
20 if bias and confounding were not present.  
21 Q Okay. Dr. Levy, I want to ask you the bottom  
22 line opinion that we've been building up to,  
23 and that is this, Doctor: Based upon your  
24 35 years of teaching and researching as an  
25 epidemiologist and your review of the

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1 epidemiologic studies of environmental  
2 tobacco smoke and lung cancer risk,  
3 including the application of these  
4 statistical principles that you've described  
5 to us, do you have an opinion that you hold  
6 with a reasonable degree of scientific  
7 certainty as to whether or not the  
8 residential epidemiologic studies of  
9 environmental tobacco smoke and lung cancer  
10 are consistent with a causal association?

11 A Yes, I do.

12 Q And what is that opinion?

13 A My opinion is that based on the presence of  
14 bias and confounding on the weakness of the  
15 association that makes them especially  
16 fragile with respect to this, my opinion is  
17 that they give very little or no evidence of  
18 a causal relationship between environmental  
19 tobacco smoke and lung cancer. In other  
20 words, they furnish no evidence that one can  
21 rely on.

22 Q Doctor, let me get another board and go to a  
23 new topic.

24 A Okay.

25 Q Doctor, you told us that the studies in

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1 addition to having relative risk estimates  
2 for residential exposure to environmental  
3 tobacco smoke, the studies also had relative  
4 risk estimates for workplace exposure; is  
5 that correct?

6 A Yes.

7 Q Dr. Levy, could you briefly explain how the  
8 relative risk estimates were derived for  
9 workplace exposure to environmental tobacco  
10 smoke.

11 A Pretty much in the same way, except spouses  
12 were not used. One asked the person, the  
13 case or the control, if we're dealing with a  
14 case/control study, whether they were  
15 exposed to environmental tobacco smoke in  
16 the workplace. And if so, there was an  
17 attempt to estimate quantitatively how much.  
18 And it was generally whether in terms of  
19 number of years in a particular workplace,  
20 wasn't truly quantitative. They were not --  
21 monitors were not put on them, obviously.  
22 So it was by interview.

23 Q Okay. Well, Doctor, I take it that you  
24 evaluated the measures of association found  
25 in the workplace studies separate from your



1 evaluation of the measures of association  
2 found in the residential studies; is that  
3 correct?  
4 A Yes, I did.  
5 Q Why did you do that?  
6 A Because, for one thing, they're different  
7 exposures. Although this is not my area of  
8 expertise, the levels of exposures are  
9 different. Also, they're at the workplace  
10 less time than they are at the home  
11 generally, and also this particular case, I  
12 believe, involves workplace -- workplace  
13 exposure only. I believe that the lady in  
14 question was a nonsmoker.  
15 Q Let me ask you about that.  
16 A And was married to a nonsmoker.  
17 Q For evaluating the likelihood that workplace  
18 exposure to environmental tobacco smoke  
19 contributes to lung cancer risk, do you have  
20 an opinion as to whether the relative risk  
21 estimates from the workplace studies or the  
22 residential studies would be most relevant?  
23 A If we're looking at workplace exposure --  
24 exposures in the workplace only, obviously,  
25 the workplace studies would be the most

1 relevant.  
2 Q Doctor, did you evaluate the workplace  
3 studies using the same criteria that you  
4 used to evaluate the residential studies?  
5 A Yes, I did.  
6 Q Okay. Could you tell the jury what you  
7 found in that regard, please.  
8 A I believe I looked at the same 16  
9 household -- U.S. household studies. Of  
10 these, 14 reported workplace -- reported  
11 workplace exposure.  
12 Q Dr. Levy, let me stop. Sorry to interrupt  
13 you. Did you prepare a demonstrative  
14 exhibit to use to explain to the jury your  
15 analysis with respect the strength of the  
16 association for workplace studies?  
17 A Yes.  
18 Q Again, with the Court's permission, I'm  
19 going to ask you to step down and use this  
20 chart to explain your analysis.  
21 A Fine.  
22 Q These are the workplace studies we're  
23 talking about; right?  
24 A These were the ones that reported relative  
25 risks. Just to get back to where I had

1 started from, we had started with the same  
2 16 studies. Of those, 14 mentioned  
3 workplace exposures. Two said that they  
4 were non-significant, did not report an  
5 actual value of a relative risk. That left  
6 14. Three of the studies reported, I guess,  
7 in males only. And so we were left with 11

8 studies in females that had workplace  
9 relative risks reported. And these were the  
10 values of relative risk. I guess one of the  
11 female studies did not report it.

12 So we had 10 that reported relative  
13 risks. Of these, four were less than 1,  
14 five were between 1 and 1.5, one was between  
15 1.5 and 2, and you can see that these are  
16 lower than the distribution that we saw for  
17 the household exposures.

18 Q So Dr. Levy, how would you characterize the  
19 strength of association reported for  
20 workplace ETS exposure and lung cancer risk?

21 A Very weak. Weaker than the household.

22 Q Dr. Levy, you told us that the Environmental  
23 Protection Agency used a statistical  
24 technique known as meta-analysis to combine  
25 the residential studies; is that correct?

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1 A Yes.

2 Q Dr. Levy, have you used meta-analysis to  
3 combine the workplace epidemiology studies?

4 A Yes, I did.

5 Q Have you prepared an exhibit in that regard?

6 A Yes.

7 Q Would that exhibit be of assistance to you  
8 in explaining your meta-analysis to the  
9 workplace studies?

10 A Yes, I think it would.

11 Q Dr. Levy, I'm going to ask you to use the  
12 exhibit that you prepared and explain to the  
13 jury what you found when you meta-analyzed  
14 the workplace studies of environmental  
15 tobacco smoke exposure and lung cancer risk.

16 A Okay. Basically I did it three ways and  
17 each way came up with essentially the same  
18 thing.

19 Some of the studies produced relative  
20 risks that didn't control for confounders.  
21 Some did. And if -- and some did both.

22 There were ten of them that had either  
23 relative risks unadjusted for confounding or  
24 relative risks adjusted for confounding.

25 The first method I took these -- I

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1 combined, did a meta-analysis on these ten  
2 studies. If they -- if they had both a  
3 relative -- an adjusted and a crude, I used  
4 the crude, because that was generally the  
5 highest. I wanted to be conservative, and  
6 if they just had one and not the other, I  
7 used whatever they had. So this is probably  
8 the most inclusive way of doing it. And I  
9 came up with a -- do you want me to explain?

10 Q Please, describe the results you obtained  
11 when you meta-analyzed the workplace  
12 studies.

13 A It came up -- the meta-analytic relative  
14 risk, the average of all of them, was 1.01,  
15 which is very low association, and it's not  
16 statistically significant, because you can

17 see, the 95 percent confidence interval  
18 overlaps the value 1.  
19 Q Let them stop you there, Doctor. When you  
20 calculated this relative risk of 1.01, did  
21 you make any correction for biases and  
22 confounders that you believed need to be  
23 made?  
24 A No.  
25 Q Okay.

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1 A No. This is what they had.  
2 Q And what was -- what was the second  
3 meta-analysis that you conducted?  
4 A The second one was based on, I believe, all  
5 the crude relative risks, and there were  
6 nine -- eight studies that had -- eight  
7 case/control studies that had crude relative  
8 risks. And I did them separately because,  
9 since the cohort of a case/control study --  
10 there was one cohort study that reported a  
11 relative risk; I did not include that.  
12 These are just the eight cohort studies that  
13 reported crude relative risks, and one comes  
14 up with a relative risk of 1.  
15 Q Of 1.0?  
16 A No association.  
17 Q That's what I want to ask you. What is -- I  
18 think you told us earlier, but what's the  
19 interpretation of 1.0 as a relative risk?  
20 A That means those that were exposed to ETS  
21 had no greater risk of lung cancer than  
22 those that did not.  
23 Q And this was for being exposed in the  
24 workplace?  
25 A For being exposed in the workplace, yes.

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1 Q And I take it you performed a third  
2 meta-analysis.  
3 A This included the eight case/control studies  
4 and the one cohort study. And one comes  
5 up -- the one cohort study was very small.  
6 I think there were -- although they started  
7 with a lot of people, they only found seven  
8 or eight cases, so it's basically the same.  
9 The same value and the same confidence  
10 interval, and it also shows no association.  
11 Q Okay. Have a seat, please.  
12 A Thank you.  
13 Q Dr. Levy, I want to ask you for your second  
14 bottom line opinion, and that is, Doctor,  
15 based upon your 35 years of teaching and  
16 research as an epidemiologist, and upon your  
17 evaluation and meta-analysis of the U.S.  
18 workplace ETS studies, do you have an  
19 opinion that you hold with a reasonable  
20 degree of scientific certainty as to whether  
21 those studies demonstrate an increased risk  
22 of lung cancer for being exposed to  
23 environmental tobacco smoke in the  
24 workplace?  
25 A Yes, I do.

- 1 Q And what is that opinion?  
2 A My opinion is that on the basis of these  
3 studies, one cannot -- one cannot  
4 conclude -- one cannot conclude that there  
5 is a relationship between environmental  
6 tobacco smoke and lung cancer.  
7 Q Okay. Go to a new topic, Doctor.  
8 Dr. Levy, are you familiar with the  
9 concept of attributable risk?  
10 A Yes. I think you might need an I between  
11 the R and the B.  
12 Q I'm sure you're right. Okay?  
13 The jury has heard this, about this  
14 concept before, but could you explain to us  
15 what the concept of attributable risk means?  
16 A Yes, it's a concept used in epidemiology,  
17 and it measures the impact, or the effect of  
18 an association between a risk factor on --  
19 and a disease on the occurrence of the  
20 disease.  
21 In other words, it measures what  
22 proportion of all people who get the disease  
23 and are exposed to the risk factor, what  
24 proportion of all such cases can be  
25 attributable to the risk factor.

- 1 Q Okay. And is there a mathematical formula  
2 that is used to calculate attributable risk?  
3 A Yes.  
4 Q What is that formula, Doctor?  
5 A Do you want me to put it up or do you  
6 want --  
7 Q I'll try, if you give it to me.  
8 A Okay. AR, we'll call attributable risk.  
9 Q Okay.  
10 A And that would be equal to the relative risk  
11 minus 1 over the relative risk.  
12 Q Both terms over the relative risk?  
13 A Both terms over the relative risk. And if  
14 you want to express it as a percent, you can  
15 multiply that by 100.  
16 Q By 100?  
17 A Correct.  
18 Q Dr. Levy, you've told us that you don't  
19 believe that the meta-analysis of U.S.  
20 workplace studies demonstrates an increased  
21 risk of lung cancer for that exposure; is  
22 that correct?  
23 A Yes.  
24 Q Notwithstanding that reservation, I'd like  
25 to ask you to perform an attributable risk

- 1 calculation for us using your meta-analysis  
2 result of 1.01, and explain to the jury what  
3 that means.  
4 A Okay. That's a pretty easy calculation.  
5 What you would do would be to subtract 1  
6 from 1.01, which gives you .01, divide it by  
7 1.01, which is the relative risk, and

8 multiply it by 100, which gives you  
9 approximately 1 percent.  
10 Q And what is the interpretation of the  
11 attributable risk of 1 percent that you just  
12 calculated, Dr. Levy?  
13 A It means if you have essentially --  
14 essentially if you have 100 women with lung  
15 cancer that are nonsmokers, and had no  
16 exposure in the household, but were exposed  
17 in the workplace, 100 of these women who had  
18 that type of exposure, and had lung cancer,  
19 only 1 of these 100 would be attributable to  
20 that exposure, if that exposure really  
21 were -- if that relative risk were really  
22 true.  
23 Q So if this risk were true, 99 out of 100 of  
24 the cases would have lung cancer  
25 attributable to some other exposure.

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1 A To one of the several other causes that  
2 are -- that have been found to be associated  
3 with lung cancer in nonsmoking women; such  
4 as diet, radon, previous history of lung  
5 disease, that type of -- the type of  
6 lifestyle and previous disease exposure.  
7 MR. FURR: Thank you, Dr. Levy.  
8 That's all I have now, Your Honor.  
9 THE COURT: All right.  
10 Mr. Motley.  
11 MR. MOTLEY: Mr. Patrick is our  
12 resident epidemiologist.  
13 THE COURT: All right. Thank you,  
14 Counselor.  
15 Mr. Patrick.  
16 MR. PATRICK: Thank you, Your  
17 Honor.  
18 MR. MOTLEY: The reason is obvious  
19 why I'm not, Your Honor.

20 CROSS-EXAMINATION

21 BY MR. PATRICK:

22 Q Good afternoon, Doctor.  
23 A Good afternoon. I didn't hear your name,  
24 I'm sorry.  
25 Q Doctor, my name is Charles Patrick. I'm

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1 going to be asking you some questions about  
2 your testimony today.  
3 A Okay.  
4 Q I don't believe we've met previously, have  
5 we?  
6 A To my knowledge, we have not.  
7 Q All right. You were not -- I think the jury  
8 has heard the term deposition. Some of the  
9 witnesses were deposed in this case. I  
10 don't believe your deposition was taken, was  
11 it?  
12 A No, not on this.  
13 Q And I think I heard you say that this was  
14 the first time you've testified in a tobacco  
15 case. Is that correct?  
16 A Yes.

17 Q Now, Dr. Levy, I believe I heard you say  
18 that you've been an epidemiologist now for  
19 about 35 years; is that correct?  
20 A Yes.  
21 Q And I'm looking at some of your biographical  
22 information. Would it be correct to say  
23 that -- are you 61 or 62 years of age at  
24 this time?  
25 A I'll be 62 in May.

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1 Q And you became an epidemiologist, or at  
2 least you received your degree in  
3 biostatistics in 1964?  
4 A Correct.  
5 Q And that was at where?  
6 A Johns Hopkins.  
7 Q Johns Hopkins. Now, in 1964, there was an  
8 event that occurred as far as tobacco  
9 health-related matters were concerned. Do  
10 you recall that?  
11 A Yes.  
12 Q You recall that the Surgeon General of the  
13 United States issued a report in 1964 that  
14 stated -- concluded that cigarette smoking  
15 was a cause of lung cancer? Do you recall  
16 that?  
17 A I recall that.  
18 Q And that was at the same time you received  
19 your degree in biostatistics from Johns  
20 Hopkins; correct?  
21 A (Affirmative nod)  
22 Q All right. Now, Doctor, at that time, did  
23 you accept the Surgeon General's conclusion  
24 that cigarette smoking among active  
25 cigarette smokers was a cause of human lung

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1 cancer?  
2 A I don't remember -- I don't remember whether  
3 the Surgeon General's report came out while  
4 I was still a student or whether I had  
5 graduated. And I don't remember seeing it  
6 when I was a student. And at that point, I  
7 don't remember -- this was my second year in  
8 graduate school at Hopkins. I don't  
9 remember having read the report at that  
10 point or the -- or having reviewed in any  
11 thorough kind of way the studies that that  
12 was based on, which were, I believe, the  
13 three major studies that were available at  
14 the time; the British doctors' study, the VA  
15 study, and I can't recall what the third one  
16 is.  
17 Of course, it was not the Surgeon  
18 General's report, but the findings of those  
19 studies, or at least the preliminary  
20 findings, I don't remember when they were  
21 published, were pretty well known by that  
22 time, I believe.  
23 Q Well, this was a publication issued by the  
24 Surgeon General, who at that time was a  
25 Luther Terry in 1964. It got -- you

1 remember when it came out?  
2 A I remember it came out in 1964. I don't  
3 remember that I was a student at the time,  
4 or I may have just graduated. I graduated  
5 by June. I don't remember if you were  
6 asking me whether I saw it as a student. I  
7 can't -- I can't recall whether I did or  
8 not. I've certainly seen it since. But was  
9 that what you were asking me, whether I  
10 was --  
11 Q I'm going to get to that.  
12 A Okay.  
13 Q But I think you said that between 1960 and  
14 '62, you worked for the Centers for Disease  
15 Control?  
16 A No. Yes, you're correct. Yes.  
17 Q All right. Which was a part of the  
18 Department of Health, Education and Welfare  
19 at that time?  
20 A Yes, at that time, that's what it was  
21 called.  
22 Q And this document was actually issued by the  
23 United States Public Health Service which  
24 was a subdivision of the United States  
25 Department of Health, Education and Welfare.

1 Isn't that correct?  
2 A Yes, that's correct.  
3 Q So who you were working for two years before  
4 this was issued, this was -- this came out  
5 of the same, basically the same agency?  
6 A It didn't come out of CDC. I believe it  
7 came out of the office of the Surgeon  
8 General. It came out of the same  
9 department.  
10 Q Right.  
11 A Okay?  
12 Q Public Health Service, United States Public  
13 Health Service.  
14 A Yes, okay.  
15 Q Now, as an epidemiologist, this was a major  
16 fundamental piece of work as far as  
17 statistical analysis of health surveys was  
18 concerned; isn't that correct?  
19 A Of health what?  
20 Q Health surveys.  
21 A Okay. Of observational studies.  
22 Q Right.  
23 A Yeah.  
24 Q Case/control studies as well as cohort  
25 studies; correct?

1 A Correct. Correct.  
2 Q And the question to be determined at that  
3 time, that the Surgeon General was  
4 analyzing, was based on all of the data, all  
5 of the studies, like the British Doctors'  
6 study, and the other studies that had been  
7 taking place, whether or not cigarette

8 smoking was established as a cause, a cause  
9 of human lung cancer; correct?  
10 A Correct.  
11 Q And subsequently you have come to know and  
12 to read and to understand the study as an  
13 epidemiologist; isn't that correct?  
14 A Not so much that particular study, but the  
15 studies upon what that review and analysis  
16 and conclusion were based on. Okay?  
17 Q Doctor, did there come a time that you came  
18 of the opinion, based on whatever studies  
19 that existed in the health literature, that  
20 cigarette smoking was established as a cause  
21 of human lung cancer?  
22 A Active smoking, you're talking about?  
23 Q Active smoking.  
24 A Yes. I can't remember at what point. At  
25 some point I read the studies. Before --  
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1 even before I read the actual studies, I was  
2 aware of the work that had been done. And  
3 it was certainly the opinion of my teachers  
4 at the School of Public Health and  
5 Epidemiology that this is what the Surgeon  
6 General was going to come out with and that  
7 cigarettes, active cigarette smoking was a  
8 risk factor for lung cancer.  
9 Q I guess my question is: Dr. Levy, since  
10 1964, you came of the opinion or developed  
11 the opinion that cigarette smoking caused  
12 lung cancer; isn't that correct? Your  
13 opinion.  
14 A At some point, and I can't say -- if  
15 you're -- if you want a time line, I can't  
16 give it to you exactly, but yes, at some  
17 point during my career, and probably earlier  
18 than later, I had reviewed what literature  
19 was available then and came to that -- came  
20 to that opinion.  
21 Q Do you recall approximately when?  
22 A No, I don't, because at that point I was  
23 doing other things. I was trying to get my  
24 thesis published. I was trying to get a  
25 job. I wasn't a researcher in either lung  
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1 cancer or the effects of tobacco smoking on  
2 anything else.  
3 Q All right. The reason I ask you that, it is  
4 true, is it not, that if cigarette smoking,  
5 active cigarette smoking, doesn't cause lung  
6 cancer, then we really don't even need to  
7 analyze, through meta-analysis or through  
8 any other device, whether or not  
9 environmental tobacco smoke is a cause of  
10 lung cancer; correct?  
11 A You're saying if tobacco -- if active  
12 smoking is not associated with it, why  
13 should environmental tobacco smoke be  
14 associated with it; is that what you're  
15 asking me.  
16 Q Well, if --



17 A Yeah.  
18 Q If active cigarette smoking doesn't cause  
19 lung cancer, then environmental tobacco  
20 smoke, we don't even need to look at that  
21 issue; correct?  
22 A You would probably not look at that issue.  
23 Q But we do know now, and we knew in 1964, or  
24 at least the Surgeon General had  
25 established, that cigarette smoking did

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1 cause lung cancer; correct?  
2 A On the basis of a committee of scientists  
3 that reviewed the literature, yes.  
4 Q Now, Dr. Levy, over the weekend break you --  
5 you talked about Medline; correct?  
6 A Uh-hum.  
7 Q Computer analysis?  
8 A Uh-hum.  
9 Q And there's a database of medical articles  
10 you can get on certain issues that pertain  
11 to medical articles and things of that  
12 nature; correct?  
13 A Correct.  
14 Q And I asked someone to research and get,  
15 obtain a list of medical articles that your  
16 name appeared on, and I believe it goes back  
17 to 1968. And let me just ask you whether or  
18 not it would be generally correct that we  
19 obtained a list of 73 articles since 1968.  
20 Does that sound about right?  
21 A I have no idea how many, but since '68?  
22 That are --  
23 Q Published medical articles.  
24 A -- published that have -- that are  
25 abstracted by the Index Medicus, I'm sure if

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1 you did it, that's what you obtained. If  
2 you used both Paul S. Levy, Paul Levy, it  
3 depends on what you put, in, okay?  
4 Q Exactly.  
5 A I can't tell you if it's correct, but it  
6 might be. I don't know.  
7 Q Well, would it be correct to say that of the  
8 articles that you published in the medical  
9 literature since 1968, that very few, if  
10 any, concern the issue of cigarettes or  
11 tobacco usage or smoking?  
12 A That would be correct.  
13 Q In fact, in looking at this list, I did not  
14 see any article that concerned the issue of  
15 tobacco; correct?  
16 A You might be. I don't recall having written  
17 an article on -- or having co-authored an  
18 article on tobacco smoke, but somewhere  
19 within the 160, 170 publications there may  
20 be something there that I was a fifth or  
21 sixth author on that I've long since  
22 forgotten about. But you're generally  
23 correct. I will accept that.  
24 Q Would I be generally correct if I said that  
25 I could not find anything that you had

- 1 authored on the issue of passive smoking?  
2 A Correct.  
3 Q Or environmental tobacco smoke?  
4 A Yes.  
5 Q So the opinions you expressed today on  
6 direct examination by Mr. Furr, those are  
7 opinions that you have not written down or  
8 at least you have not published in the  
9 peer-reviewed medical literature; is that  
10 correct?  
11 A That's correct.  
12 Q And, in fact, the first time that you even  
13 analyzed this question as to whether or not  
14 environmental tobacco smoke is a cause of  
15 lung cancer is at the instance of the  
16 lawyers representing the cigarette  
17 companies; isn't that correct?  
18 A Yes.  
19 Q And when were you first contacted to engage  
20 in this research project to look at the  
21 medical literature so as to determine  
22 whether or not environmental tobacco smoke  
23 was a cause of lung cancer?  
24 A Sometime September or October. I don't  
25 remember the exact date.

- 1 Q September or October of 1997?  
2 A Correct.  
3 Q Would it be fair to say that before  
4 September or October of 1997, you were not  
5 an expert in this field, that is, looking at  
6 the question of whether or not ETS is a  
7 cause of lung cancer?  
8 A I would say it's correct that I was not an  
9 expert in that substantive field, but I  
10 consider myself an expert in reviewing and  
11 analyzing and interpreting and synthesizing  
12 epidemiologic studies on a particular topic,  
13 from the point of view that I --  
14 Q I understand that. I'm not quarreling with  
15 your qualifications as an epidemiologist  
16 generally.  
17 A Okay.  
18 Q But if I came to you in August of last year,  
19 and I said, Dr. Levy, can you give me an  
20 analysis of all the medical literature that  
21 exists on the hazards of environmental  
22 tobacco smoke as it relates to lung cancer,  
23 you would have to say, I don't know; I would  
24 have to look. Isn't that correct?  
25 A Right. I had, of course, during the course

- 1 of teaching read some of the studies, but  
2 yes, I would have to have looked to see  
3 what's there, what's out there.  
4 Q Now, Dr. Levy, in looking at the medical  
5 literature, have you become familiar with a  
6 report that was issued in September of 1997  
7 by the California Environmental Protection

8 Agency entitled, "Health Effects of Exposure  
9 to Environmental Tobacco Smoke"?  
10 A I have looked at it. I haven't reviewed it  
11 thoroughly.  
12 Q Are you aware that there was a process by  
13 which this publication was put together so  
14 that there would be comments, both from  
15 public health groups and the tobacco  
16 companies, as to whether or not whatever  
17 data, whatever opinions are contained in the  
18 final publication, are valid and correct?  
19 A No. No. I really did not review that  
20 thoroughly. I'm not an expert on that  
21 particular document. I would have to spend  
22 some time looking at it to be helpful to  
23 you.  
24 Q Are you familiar with a Dr. Richard  
25 Carchman?

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1 A I don't think I am. Could you spell his  
2 name?  
3 Q C-A-R-C-H-M-A-N?  
4 A C-A-R.  
5 Q C-H?  
6 A T-H.  
7 Q M-A-N?  
8 A Carchman.  
9 Q Carchman?  
10 A Carchman?  
11 Q Carchman.  
12 A No.  
13 Q I think he's going to be --  
14 A No, I'm not.  
15 Q So you don't know whether or not  
16 Dr. Carchman, who may or may not be  
17 affiliated with Philip Morris, had a chance  
18 to offer extensive comments to this  
19 particular volume.  
20 A No.  
21 Q Dr. Levy, are you aware that in this report  
22 by the California EPA, after they looked at  
23 all of the available literature on  
24 environmental tobacco smoke, whether or not  
25 they concluded that environmental tobacco

LEVY-CROSS

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1 smoke was a cause of lung cancer?  
2 A Is that the same report you're talking  
3 about?  
4 Q Same report I just asked you about.  
5 A I believe I looked at it and saw that they  
6 did.  
7 Q And, in fact, Dr. Levy, isn't it correct  
8 that this report also looked at the same  
9 occupational studies, or the studies that  
10 analyzed whether or not exposure to  
11 environmental tobacco smoke in an  
12 occupational setting could cause lung  
13 cancer, and they concluded in this report  
14 that occupational environmental tobacco  
15 smoke exposure was a cause of cancer, lung  
16 cancer?

17 A I'm not -- okay. I'm not sure it's the same  
18 thing. Again, I didn't focus on that  
19 particular document. I focused on the  
20 original studies that had workplace,  
21 exposures. I think occupational studies may  
22 have been something different. You'd have  
23 to show me whether they looked at the same  
24 studies that I looked at.

25 MR. PATRICK: Your Honor, may I  
LEVY-CROSS

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1 approach?

2 THE COURT: Yes.

3 Q If you just look at the highlighted section,  
4 and if you could read it, wouldn't you agree  
5 that it looked at many of the studies that  
6 you discussed, the ones that are in the  
7 medical literature, and concluded that  
8 workplace exposures also caused lung cancer?

9 A Okay. They mention Wu, which is one of the  
10 studies I looked at, Wu Williams which is a  
11 study -- I looked at studies in the United  
12 States. Wu Williams, I believe, was in  
13 China, Hong Kong, or something like that.  
14 Fontham I looked at; that's three. Okay.  
15 Basically this highlighted section is  
16 talking about the Fontham study.

17 Q Right. And you looked at the Fontham study,  
18 did you not?

19 A Yes.

20 Q And the Fontham study is the largest study,  
21 had the most people included in that study  
22 of any environmental tobacco smoke study  
23 that we have; isn't that correct?

24 A In the U.S.

25 Q In the U.S. It is a multi-center study;

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1 isn't that correct?

2 A Yes.

3 Q So they looked at individuals in Atlanta,  
4 they looked at people in Houston, they  
5 looked at people in Los Angeles, they looked  
6 at people all over the country; and then  
7 they combined that to try to determine, in  
8 the Fontham study that was published in  
9 1994, whether or not environmental tobacco  
10 smoke was a cause of lung cancer; correct?

11 A Correct. That's the largest in the United  
12 States, but it's not the only study.

13 Q Right. Doctor, would it be true that if you  
14 took all the people in the Fontham study and  
15 you put them next to all the people that you  
16 added up in all the other studies in the  
17 U.S., Fontham would even be more or almost  
18 as many as the people in all those other  
19 studies?

20 A I haven't counted -- I haven't counted the  
21 others and then compared them with Fontham.  
22 I can't answer that as you stated it,  
23 because the Bronston study had a lot of  
24 people, the Stockwell study did, the New  
25 York study, New York State study had about

- 1 100, so --
- 2 Q Why don't we look at Fontham, because rather
- 3 than looking at that EPA report, let's look
- 4 at something you've actually analyzed.
- 5 A Incidentally, Fontham was included in my
- 6 meta-analysis of workplace and spousal
- 7 studies.
- 8 MR. PATRICK: Your Honor, may I
- 9 approach?
- 10 THE COURT: Go ahead.
- 11 Q If you'd look, this is a copy of the Fontham
- 12 study here. I can take the EPA document, if
- 13 you'd like.
- 14 A That indeed is the Fontham study.
- 15 Q All right. Doctor --
- 16 A The second Fontham study.
- 17 Q The second Fontham. There's one in 1991,
- 18 and I believe there was this one in 1994.
- 19 A Right.
- 20 Q Correct?
- 21 A The '91 was not included in my analysis,
- 22 because it's basically an earlier report of
- 23 the same data.
- 24 Q All right. If you'll just look at the
- 25 beginning, look at the first page, there's

- 1 the objective, design, setting, patients or
- 2 other participants, main outcome measure,
- 3 results; and then just look at the
- 4 conclusion, bottom line conclusion. If
- 5 you'll agree that I'm stating it properly,
- 6 "Exposure to ETS during adult life increases
- 7 the risk of lung cancer in lifetime
- 8 nonsmokers." Correct?
- 9 A Yes. That was their conclusion on this
- 10 basis of one study.
- 11 Q And this was a study that appeared in the
- 12 Journal of the American Medical Association
- 13 in 1994; isn't that correct?
- 14 A That's correct.
- 15 Q And if you look at the table on page 1756,
- 16 and it's under --
- 17 MR. PATRICK: Your Honor, may I
- 18 display this on the Elmo, since he's
- 19 recognized it? He's analyzed it. If we can
- 20 get the television working, we can maybe all
- 21 see it.
- 22 Q Doctor, this is a -- first of all, this was
- 23 a study of nonsmoking women who were exposed
- 24 to environmental tobacco smoke; correct?
- 25 A Uh-hum.

- 1 Q And if you look at the graph, the chart,
- 2 excuse me, occupationally -- occupational
- 3 exposure, ever exposed, that if you were
- 4 exposed from 1 to 15 years, you had an odds
- 5 ratio of a relative risk of 1.30, relative
- 6 risk that you were talking about earlier
- 7 today. If you were exposed for more than 16

8 and up to 30 years, you had a relative risk  
9 of 1.40. And if you were exposed for more  
10 than 30 years, you had a relative risk of  
11 1.86. Correct?  
12 A Uh-hum. That's what she found.  
13 Q And if you, among those nonsmoking women who  
14 had adenocarcinoma, if they were exposed  
15 from 1 to 15 years, they had a risk of 1.36;  
16 16 to 30 years, 1.49; and over 30 years,  
17 1.87. Correct? That's what the authors  
18 found.  
19 A Uh-hum.  
20 Q And the authors of this study concluded that  
21 that risk was significant, did they not?  
22 A Yes.  
23 MR. PATRICK: Your Honor, I'm going  
24 into another area. We can break now, or I  
25 can proceed on?

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1 THE COURT: Go ahead for a while.  
2 Q Now, Dr. Levy, I believe you testified on  
3 direct examination that you spent  
4 approximately 140 hours doing your research;  
5 is that correct?  
6 A I'm not sure of the exact number. I didn't  
7 take it with me. Something like 130, 120 to  
8 140, that order of magnitude.  
9 Q A low of 120 or a high of 140?  
10 A Correct.  
11 Q And you charge, I believe, or did charge, or  
12 are going to charge, \$275 an hour?  
13 A Have and I'm going to charge.  
14 Q How much money have you received from this  
15 particular research project?  
16 A So far, about \$20,000.  
17 Q And if my math is correct, and I'm not -- I  
18 don't vouch for it, but let's assume that  
19 you spent a high of 140 times 275, would it  
20 be correct that you're going to receive  
21 approximately \$38,500? Is that a correct  
22 mathematical --  
23 A Yeah. About that.  
24 Q All right.  
25 A Order of magnitude, anyway.

LEVY-CROSS

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1 Q All right. Do you know a Dr. David Burns?  
2 A I don't know him, no.  
3 Q Let me represent to you that he was a  
4 consultant to the EPA report in 1992. Does  
5 that refresh your recollection as to who he  
6 might be?  
7 A I think so. I think I looked at the names.  
8 I didn't know most of the people but  
9 basically concentrated on the findings.  
10 Q You realize in looking -- you looked at the  
11 EPA report, did you not?  
12 A Yes.  
13 Q Did you study it carefully?  
14 A I think I did. The parts that were relevant  
15 to my analysis.  
16 Q Did you look to see if there was a

17 Scientific Advisory Board to the  
18 Environmental Protection Agency of  
19 individuals who were involved, actually  
20 involved in analyzing all this data, much  
21 like you did on your own?  
22 A Yes, I did. I didn't pay too much attention  
23 as to -- I didn't concentrate on it that  
24 much, on that aspect of it, because my job  
25 was to just look at what they did, what they

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1 found, and to evaluate the significance of  
2 their findings and the problems, if any,  
3 with their interpretation of the findings.  
4 Q Well, see -- I don't mean to cut you off. I  
5 see that Dr. Burns was a consultant to the  
6 Scientific Advisory Board along with another  
7 name that we've heard in this courtroom,  
8 Dr. Geoffrey Kabat. Do you know Dr. Kabat?  
9 A I don't know him personally. I know  
10 certainly by now some of his work on ETS.  
11 And I've seen some of his work on other  
12 studies -- other topics. He's at the  
13 American Health Foundation.  
14 Q I'm just counting the number of people that  
15 were involved either as members of the  
16 Scientific Advisory Board or consultants to  
17 the Scientific Advisory Board. I believe  
18 there were 18.  
19 A Uh-hum.  
20 Q And were you ever contacted to be involved  
21 in this report, to contribute to the report?  
22 A No.  
23 Q Since the publication of this report, have  
24 you contacted any of the members of the  
25 committee or Scientific Advisory Board to

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1 offer your comments and suggestions  
2 regarding your own conclusions?  
3 A No. I don't think that's -- I don't think  
4 that -- first of all, I only got into it  
5 just this recently, and that report is more  
6 or less based on 1992 data. I should say on  
7 '90 -- on what was available in 1992.  
8 Q Doctor, let me show you a graph that we  
9 prepared.  
10 MR. FURR: May I see it, please?  
11 MR. PATRICK: Sure.  
12 Q Doctor, you see where I've taken the various  
13 reports of the various agencies that have  
14 looked at the issue as to whether or not  
15 environmental tobacco smoke causes lung  
16 cancer and basically have just simply put  
17 their bottom line conclusions on a graph.  
18 And you recognize these agencies as agencies  
19 that have looked at this particular issue?  
20 A Uh-hum. Yes.  
21 MR. PATRICK: Your Honor, we'll  
22 mark this as the next exhibit for  
23 identification purposes. I believe it's 88.  
24 MR. CASSELL: 89.  
25 THE COURT: 89.

1 MR. PATRICK: And if I could  
2 display it on the screen.

3 MR. FURR: Your Honor, I think I'd  
4 object to that now. If the doctor  
5 recognizes each of these as a learned  
6 treatise, he can be cross-examined with  
7 them, but I don't think it's appropriate to  
8 display these to the jury at this point.

9 MR. MOTLEY: Your Honor, that's not  
10 correct. The rule says if anybody has  
11 recognized it as learned treatise, you can  
12 use it. These documents were all used in  
13 our case in chief, recognized as learned  
14 treatises by Dr. Burns.

15 MR. WAGNER: It's hearsay, Your  
16 Honor.

17 MR. MOTLEY: It's not hearsay,  
18 Judge. It's a rule specific to learned  
19 treatises.

20 THE COURT: Counselor, tell me your  
21 plan. Are you offering it, the document  
22 itself, into evidence, or are you just  
23 publishing it to show the jury upon what he  
24 may have relied?

25 MR. PATRICK: Just upon what he may  
LEVY-CROSS

1 have relied. I'm not offering it into  
2 evidence.

3 MR. FURR: May I approach, see what  
4 we're talking about?

5 THE COURT: Please. Thank you.  
6 Objection sustained.

7 Q Let me just ask you, without making any  
8 particular reference to the graph, you have  
9 come to understand, based on your medical  
10 research, that the Surgeon General in 1986  
11 concluded that environmental tobacco smoke  
12 was a cause of lung cancer; correct?

13 A On the basis of the data that were there  
14 then, and again on the basis of  
15 interpretations of the studies that were  
16 there at that time as interpreted by a  
17 committee.

18 Q And in 1986 the National Research Council  
19 for the National Academy of Sciences also  
20 came to the same conclusion.

21 A Pretty much on the same body of work that  
22 was there at the same time. And there were  
23 much fewer studies then than there are now.

24 Q We've talked about the Environmental  
25 Protection Agency. The National Institute

1 for Occupational Safety and Health, do you  
2 know what that institution is?

3 A Yes, I do.

4 Q And do you know that in 1991 they came to  
5 the same conclusion?

6 A I think they didn't do their own study. I  
7 think it may have been on the basis of one



8 of the ones you just mentioned, probably the  
9 EPA study.  
10 Q And the American Thoracic Society in 1996  
11 also came to the same conclusion, including  
12 the conclusion that occupational exposure  
13 was a cause of lung cancer; isn't that  
14 correct?  
15 A I don't know if they did or not. I'm not  
16 aware that they did, but if they did, I  
17 don't believe they published a study of  
18 their own or a review of their own. This  
19 was probably based on one of the EPA -- I  
20 forgot the date you mentioned they did that,  
21 but it was possibly based on one of the --  
22 the EPA or the Surgeon General's Report.  
23 It's not an independent conclusion based on  
24 a review of their own, to my knowledge.  
25 Q And the American Cancer Society came to the  
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1 same conclusion in 1997. Do you know if  
2 they came to the same conclusion?  
3 A I don't know whether they did or not. I  
4 would have to see it.  
5 Q And it's something you just haven't looked  
6 at in your medical research.  
7 A I haven't seen it.  
8 Q The American Lung Association is also of the  
9 same view?  
10 A I'm sorry?  
11 Q The American Lung Association is also of the  
12 view that environmental tobacco smoke is a  
13 cause of lung cancer?  
14 A I don't know. Again, I know of no  
15 independent analysis of the human studies,  
16 either the spousal or the workplace, that  
17 they've done and published separately.  
18 Q What about the American Academy of  
19 Pediatrics in 1997; do you know what their  
20 opinion is?  
21 A No, I don't know what their opinion is and  
22 I'm not aware of any independent study or  
23 review that they did.  
24 Q And you told us that you were not that  
25 familiar with the California Environmental  
LEVY-CROSS

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1 Protection Agency study; is that correct?  
2 A No. No.  
3 Q Are you aware that it was published in  
4 September of 1997?  
5 A Yes.  
6 Q Now, are you aware that in 1996 that your  
7 alma mater, Johns Hopkins, issued a report  
8 on the health effects of various substances,  
9 and also concluded that passive smoking was  
10 a cause of lung cancer?  
11 A I'm not aware of it, and I don't know what  
12 the base -- whether that's based on an  
13 independent study or it's based on the same  
14 data that were -- I forgot, whatever was  
15 available at the time, or based on -- I  
16 don't know what the basis of their

17 conclusions was, in other words.  
18 Q Are you familiar with Dr. Jonathan Samette  
19 (phonetic) at Johns Hopkins?  
20 A Yes.  
21 Q Are you aware that he is of the opinion, and  
22 has published, that environmental tobacco  
23 smoke is a cause of lung cancer?  
24 A I don't know what he has said in public. I  
25 believe he's the author of one of the

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1 studies or co-author of one of the studies  
2 that were included in my meta-analysis of  
3 the workplace or of the spousal studies.  
4 Q Now, let me show you a document and ask you  
5 if you can identify it. We'll mark this one  
6 as Plaintiffs' 90 for identification.  
7 THE COURT: I believe it would be  
8 91, Counselor. 90 has already been used.  
9 Q Are you familiar with this document I just  
10 handed you, Plaintiffs' 90? 91, I'm sorry.  
11 It's getting late in the day.  
12 A Looks like it comes from my own institution,  
13 and I'm not aware, and I doubt whether  
14 they've made any independent studies of the  
15 same thing.  
16 Q Well, are you aware that at the University  
17 of Illinois-Chicago, that there is -- that  
18 they, they stated in this document that  
19 compelling evidence now exists that links  
20 long-term exposure to secondhand smoke with  
21 increased health risks for nonsmokers. Do  
22 you see that?  
23 A I know there's a -- yes, it does say that.  
24 I don't know what the basis of their  
25 conclusion is, whether it's an

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1 independent -- based on an independent  
2 study. I don't think that it is. I'm not  
3 going to speculate on what it's based.  
4 Q It's something you didn't have any  
5 participation in, I take it?  
6 A I had no participation in it.  
7 Q But you are aware that the University of  
8 Illinois-Chicago has a smoke-free  
9 environment and a smoke-free policy.  
10 A We've had a smoke-free environment since  
11 1972 when the first dean created a  
12 smoke-free environment. And I'm heartily  
13 supportive of it. I think it discourages  
14 active smoking. I think it limits smoking  
15 in the workplace. And I think it -- I think  
16 it's a good thing in many ways, but  
17 primarily it limits the amount of active  
18 smoking, and a lot of people, I think,  
19 including myself, don't like to be around  
20 smoke.  
21 Q Do you believe that there are any health  
22 hazards to exposure, to be exposed to  
23 passive smoke?  
24 MR. FURR: Excuse me, I object,  
25 Your Honor, as going beyond the scope of

1 direct, if we're talking about health  
2 hazards other than lung cancer.  
3 MR. PATRICK: Your Honor, it goes  
4 to --

5 THE COURT: Overruled. Go ahead.

6 Q Do you believe that there are other health  
7 hazards, or any health hazard, for that  
8 matter, by being exposed to secondhand  
9 smoke?

10 A I've looked at the data on lung cancer,  
11 you've heard my opinions on that. I haven't  
12 looked at the data in a systematic way, or  
13 hardly at all on others, and I'm not going  
14 to venture an opinion on health hazards  
15 related to other diseases. I was dealing  
16 exclusively with ETS and lung cancer.

17 Q Now, Dr. Levy, you've been the author, as I  
18 believe you stated on direct examination, of  
19 a number of epidemiological studies; isn't  
20 that correct?

21 A Uh-hum.

22 Q And do you recall that in 1993 -- 1994,  
23 excuse me, that you published an article in  
24 the Journal of Clinical Epidemiology  
25 entitled, "Alcoholic Beverages and Breast

1 Cancer: Some Observations on Published  
2 Case/Control Studies"?

3 A Yes. I was a co-author.

4 Q I believe you were the second author on  
5 this?

6 A Yes.

7 Q And this was an original study, or excuse  
8 me, this was -- was this a review study, a  
9 review of all the literature?

10 A We did no original studies on the topic.  
11 This is a review of what was there at the  
12 time.

13 Q And so what you did here, or for your  
14 testimony here, which was to review all the  
15 literature that exists on environmental  
16 tobacco smoke, you pretty much did for  
17 alcohol and whether or not it would cause  
18 breast cancer in order to put into this  
19 article; is that correct?

20 A That's correct. But I had -- the article  
21 had another objective, would be to look at  
22 what are elements of the case/control  
23 studies. This was a review of however many  
24 case/control studies were available at the  
25 time. I think there were 38 -- if I got the

1 number correct -- on the topic. And I  
2 wanted to see if there was any -- if there  
3 were -- Dr. Roth and I wanted to see if  
4 there were any particular characteristic of  
5 a particular type of case/control study,  
6 particular element of it, that would lead to  
7 either an elevated or lower relative risk,

8 so that was an objective also.  
9 Q And examining whether or not alcohol, the  
10 ingestion of alcohol by women caused breast  
11 cancer, you looked at the available medical  
12 literature; isn't that correct?  
13 A Correct.  
14 Q And your conclusion was --  
15 A The available case/control studies. That's  
16 what we were looking at.  
17 Q And you state in summary, "The generally  
18 weak association supported in these  
19 case/control studies along with the  
20 measurement and/or selection biases implied  
21 by our findings would lead one to the  
22 conclusion that present evidence does not  
23 support a causal association." Correct?  
24 A Correct, at the time.  
25 Q Now, that's -- strike that.

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1 If you look at page 215 of this  
2 article, you acknowledge that the study was  
3 supported in part by the Distilled Spirits  
4 Council of the United States.  
5 A Correct.  
6 Q And what is the Distilled Spirits Council?  
7 A Distilled Spirits Council is a trade  
8 association for distilled spirits; whiskey,  
9 whatever, bourbon, scotch, that kind of  
10 thing.  
11 Q Does that include beer?  
12 A No.  
13 Q So if Philip Morris manufactured beer, they  
14 would not be a member of this particular  
15 association, or do you know?  
16 A No, I think it's just organizations like  
17 Seagrams, et cetera.  
18 Q Have you been a consultant for the Distilled  
19 Spirits Council of the U.S.?  
20 A Yes.  
21 Q For how long?  
22 A Not a consultant. I've been on their board  
23 for -- medical advisory board for, I  
24 believe, since 198- -- either '89 or '90.  
25 It's on my vita.

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1 Q Well, do you recall in 1988 that there was  
2 an issue as to whether or not alcohol was  
3 going to be placed on a list of carcinogens  
4 by a committee, state committee in  
5 California, and you commented on the fact  
6 that there was no link between alcohol and  
7 cancer at that time?

8 MR. FURR: Your Honor, I just want  
9 to object on relevancy, it seems we're  
10 getting pretty far afield. He tried to  
11 connect it up with the defendant in this  
12 case, and he wasn't able to do it.

13 MR. PATRICK: It goes to generally  
14 bias, Your Honor.

15 MR. FURR: On behalf of who, Your  
16 Honor?

17 THE COURT: Overruled. You can  
18 answer the last question.  
19 Q Do you recall that?  
20 A Yes.  
21 Q And do you recall in stating when you stated  
22 that there was not enough evidence to link  
23 alcohol and cancer, that the investigators  
24 had not properly excluded all confounding  
25 factors, including tobacco?

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1 A I don't remember -- well, yes, I probably  
2 said that because, especially with oral  
3 cancers. I don't remember saying that but,  
4 yes, I think that's a valid point.  
5 Q Now, are you familiar with an organization  
6 called the Council for Tobacco Research?  
7 A I think so, yes. If that's the research  
8 group.  
9 Q Of the tobacco industry.  
10 A Yeah. Yes.  
11 Q Are you aware of that?  
12 A Yes.  
13 Q And have you received any funding from the  
14 Council for Tobacco Research?  
15 A Not that I'm aware of.  
16 Q But if you -- if the industry, or you,  
17 wanted to do a study of individuals or  
18 nonsmoking women who are, let's say, nurses  
19 exposed in the hospital setting, you could  
20 receive funding for such a study either from  
21 the Council for Tobacco Research or any  
22 members of the tobacco industry, could you  
23 not?  
24 A What do you mean I could?  
25 Q Well, it would be -- let's say that you

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1 wanted to do a study that examined,  
2 particularly, whether or not there was a  
3 risk for lung cancer among nonsmoking nurses  
4 who were exposed to environmental tobacco  
5 smoke in hospitals. You could design such a  
6 study from an epidemiologic standpoint,  
7 could you not?

8 MR. WAGNER: Objection, Your Honor,  
9 relevance.

10 THE COURT: Sustained.

11 Q Do you know whether or not such a study has  
12 ever been performed?

13 MR. WAGNER: Same objection.

14 THE COURT: No, he can answer that.  
15 If you know.

16 THE WITNESS: Okay. Could you  
17 repeat the question?

18 Q In looking -- when you looked at all the  
19 medical literature concerning medical  
20 studies that involve the risk of cancer from  
21 environmental tobacco smoke, did you find a  
22 study that specifically looked at a cohort  
23 or a group of nonsmoking nurses who were  
24 exposed to environmental tobacco smoke in  
25 hospitals?

- 1 A There were studies of -- cohort studies of  
2 nurses in hospitals and outside of hospitals  
3 in Finland and Denmark. The smoking status  
4 of the nurses was not known. There were two  
5 articles. One was Finish, one was Danish.  
6 But one didn't know smoking status. Those  
7 are the only studies I know that are  
8 particularly of nurses.
- 9 Q Did the nurses smoke or not smoke?
- 10 A No, they didn't have that data.
- 11 Q Excuse me?
- 12 A They did not have that data.
- 13 Q They did not have that data. So you don't  
14 know --
- 15 A I'll get closer to the mike.
- 16 Q You don't know whether or not those nurses  
17 smoked or not; correct?
- 18 A No.
- 19 Q So the answer to my question then as far as  
20 the United States was concerned, there, in  
21 fact, is no study of nonsmoking nurses in  
22 hospitals that would give you any  
23 information one way or the other as to  
24 whether or not environmental tobacco smoke  
25 would cause cancer in that population.

- 1 Correct?
- 2 A I'm not aware of any study, no.
- 3 Q Did you, in your review of the occupational  
4 studies, did you find any studies where  
5 individuals would be exposed to secondhand  
6 smoke in close proximity to a person,  
7 another person who was smoking a cigarette,  
8 so that the secondhand smoke was actually  
9 coming up into that person's face as that  
10 individual was holding the cigarette for an  
11 individual?
- 12 A No.
- 13 Q Would you agree with me that dose for dose,  
14 environmental tobacco smoke is more  
15 dangerous than mainstream smoke?
- 16 A I don't know.
- 17 Q Do you know what carcinogens are in  
18 environmental tobacco smoke?
- 19 A That's not an area of my expertise. I  
20 wouldn't care to comment on it.
- 21 Q Are you aware as to -- strike that.  
22 Do you know if environmental tobacco  
23 smoke consists of 85 percent sidestream  
24 smoke and 15 percent mainstream smoke?
- 25 MR. WAGNER: Objection, Your Honor.

- 1 He just said he wasn't an expert in this in  
2 area.
- 3 Q If you know.
- 4 THE COURT: Sustained.
- 5 A I don't know the exact --
- 6 THE COURT: You don't have to  
7 answer that.

8 A I know those are the two constituent -- you  
9 don't want me to answer that? I'm sorry.  
10 Q Don't answer that.  
11 A I'm sorry.  
12 Q Just stop.  
13 MR. MOTLEY: Might this be a good  
14 time to stop?  
15 MR. WAGNER: Let's see if we can.  
16 MR. MOTLEY: We're not going to get  
17 finished tonight, I can assure you.  
18 THE COURT: How much more are you  
19 going to have, cross-examination?  
20 MR. PATRICK: Your Honor, I  
21 probably have at least 30 to 45 minutes. I  
22 have tried to shorten it up.  
23 THE COURT: I think we will take  
24 the evening break. We've had a long day.  
25 Doctor, you may stop down.  
LEVY-CROSS

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1 (Standard admonition)  
2 THE COURT: Who will be your next  
3 witness for the defense, tomorrow?  
4 MR. OHLEMEYER: Your Honor, it all  
5 depends on how long this goes. We've got  
6 three witnesses tomorrow, either  
7 Dr. Coggins, Dr. Carchman, Dr. Townsend,  
8 Dr. Porter, but it all depends on when we  
9 can start, depending on people's schedule.  
10 THE COURT: I'm sure sometime in  
11 the morning.  
12 MR. OHLEMEYER: Absolutely.  
13 THE COURT: Good evening, ladies  
14 and gentlemen.  
15 MR. CASSELL: All rise.  
16 MR. MOTLEY: Judge, can we have two  
17 minutes?  
18 (Jury not present)  
19 THE COURT: Sure. On the record  
20 or --  
21 MR. MOTLEY: I'm reminded that I  
22 forgot to introduce, or move to introduce,  
23 while Dr. Bennett was here, his CV, although  
24 I asked him about it, he identified it, we  
25 marked it. I don't think I moved it in.

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1 But that's not the -- what I really  
2 want to know, Judge, is, I'm confused about  
3 what counsel said about what's going to  
4 happen tomorrow.  
5 We've been, at the end of each day,  
6 you've required them to tell us the lineup  
7 for tomorrow. I don't mean --  
8 THE COURT: I think he told us  
9 three witnesses.  
10 MR. OHLEMEYER: Four witnesses,  
11 Your Honor, and depending on when we can  
12 start, we'll get, I hope, to at least three  
13 of them. My intention is either start with  
14 Dr. Coggins, when we finish with Dr. Levy.  
15 But I don't know if we have 15 minutes of  
16 cross, or an hour of cross.  
17 MR. MOTLEY: He said 30.

18 MR. OHLEMEYER: I heard you say 45.  
19 Your Honor, my point is, both sides in this  
20 case have done a very poor job of estimating  
21 time. For no -- through nobody's fault at  
22 times.

23 But my point is, I want to put  
24 Dr. Coggins on tomorrow, I want to put  
25 Dr. Carchman on tomorrow. I either want to  
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1 put Dr. Townsend or Dr. Porter on tomorrow,  
2 depending on how soon we can start.

3 THE COURT: That's about as good as  
4 it can go.

5 MR. MOTLEY: My only question, is  
6 Porter apt to come in the morning or in the  
7 afternoon, if he comes?

8 MR. OHLEMEYER: Well, he's apt to  
9 come in the afternoon.

10 MR. MOTLEY: That's all I need.

11 MR. OHLEMEYER: I've got a lot of  
12 ground I have to plow before I get there.

13 With respect to the CV, Your Honor, I  
14 don't know what your position is, but I  
15 think introducing witnesses' CVs is  
16 objectionable. In the first instance,  
17 they're hearsay. In the second instance,  
18 they don't provide the jury with any more  
19 information than what could have been  
20 elicited from the witness while he or she  
21 was on the stand. I think it's just  
22 potentially confusing to the jury to look  
23 through a CV and try to figure out what  
24 certain things are and what they mean, and  
25 the witness can be asked about them while he  
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1 or she is here to testify.

2 MR. MOTLEY: Well, Your Honor, may  
3 I respond?

4 THE COURT: It was my recollection  
5 it was identified.

6 MR. MOTLEY: Yes, sir.

7 THE COURT: And you don't think you  
8 offered it into evidence?

9 MR. MOTLEY: I don't think I  
10 formally moved it into evidence. I just  
11 plum forgot. There have been, I think, two  
12 or three resumes introduced into evidence,  
13 and the reason why it's not hearsay is you  
14 asked the witness to attest that it's  
15 accurate and reflects his activities prior  
16 to coming into court so you don't have to  
17 sit there and go through them one by one.  
18 And that's why I want to put it into  
19 evidence, Your Honor.

20 THE COURT: What was the exhibit  
21 number?

22 MR. CASSELL: I don't believe it  
23 was ever marked.

24 THE COURT: It was never marked.

25 MR. OHLEMEYER: I don't think it  
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1 was either.

2 MR. CASSELL: It was shown to him.



3 THE COURT: I remember you showing  
4 it to him, asking him if that was it.  
5 MR. MOTLEY: I remember I asked him  
6 about the publications, I thought that we  
7 identified it. He testified that was fair;  
8 it was his resume. I don't know that I ever  
9 offered it for any purpose.

10 MR. OHLEMEYER: Here's why it's not  
11 fair, even at this point. If he had offered  
12 it into evidence while the witness was here,  
13 and over my objection you admitted it, I  
14 could have asked the witness to explain  
15 things.

16 At this point the jury has heard the  
17 witness, the jury has heard a very lengthy  
18 cross-examination that focused almost  
19 exclusively on the witness' qualifications.  
20 And I don't think there's any probative  
21 value to admitting his CV. I think I said,  
22 as a general comment, I object to any CV,  
23 but especially in this case.

24 THE COURT: I'm going to go back  
25 and review his testimony regarding that

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1 tonight. I'll rule on this in the morning.

2 MR. MOTLEY: Thank you, Judge.

3 THE COURT: Anything else we need  
4 to talk about, Counsel? Thank you.

5 (The proceedings were adjourned at 5:30  
6 p.m., to be reconvened on March 10, 1998, at  
7 8:30 a.m.)  
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